



CIGARETTE INFORMATION REPORT

PHILIP MORRIS USA RESEARCH AND DEVELOPMENT



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ALPHABETICAL INDEX OF BRANDS

BRAND	SIZE	PAGE NO.*	COMPANY**	BRAND	SIZE	PAGE NO.*	COMPANY**
Alpine	K-FM	21	PM	Kent III	K-F	7	LO
Barclay	K-F	9	BW	Kent	100	27	LO
Barclay Men.	K-FM	17	BW	Kent Men.	100M	48	LO
Barclay (Box)	L-F	6	BW	Kent III	100	22	LO
Barclay	100	23	BW	Kent III (Box)	100	46	LO
Barclay Men.	100M	31	BW	Kent Golden Lights	K-F	10	LO
Belair	K-FM	19	BW	Kent Golden Lights Men.	K-FM	18	LO
Belair	100M	33	BW	Kent Golden Lights	100	24	LO
Benson & Hedges (Box)	R-F	46	PM	Kent Golden Lights Men.	100M	32	LO
Benson & Hedges (Box)	K-F	46	PM	Kool	R-NFM	48	BW
Benson & Hedges	100	28	PM	Kool (Box)	L-FM	48	BW
Benson & Hedges Men.	100M	36	PM	Kool	K-FM	20	BW
Benson & Hedges (Box)	100	46	PM	Kool Lights	K-FM	19	BW
Benson & Hedges Men. (Box)	100M	48	PM	Kool Milds	K-FM	19	BW
Benson & Hedges Lights	100	25	PM	Kool Ultra	K-FM	17	BW
Benson & Hedges Lights Men.	100M	34	PM	Kool	100M	35	BW
B & H DeLuxe U.L. (Box)	100	23	PM	Kool Lights	100M	33	BW
B & H DeLuxe U.L. Men. (Box)	100M	31	PM	Kool Milds	100M	48	BW
B & H Multifilter	K-FC	40	PM	Kool Ultra	100M	31	BW
B & H Multifilter Men.	K-FM	20	PM	Lark	K-FC	40	LG
Bright	K-FM	18	R	Lark	100C	41	LG
Bright	100M	32	R	Lark Lights	K-FC	40	LG
Bull Durham	K-F	46	A	Lark Lights	100C	41	LG
Cambridge	100	23	PM	L & M (Box)	L-F	46	LG
Cambridge (Box)	K-F	6	PM	L & M	K-F	13	LG
Cambridge	K-F	7	PM	L & M	100	26	LG
Camel	R-NF	43	R	Long Johns	120	46	A
Camel	K-F	14	R	Lucky Strike	R-NF	43	A
Camel Lights (Box)	LF	42	R	Lucky Strike	K-F	12	A
Camel Lights	K-F	11	R	Lucky Strike (Box)	K-F	12	A
Camel Lights	100	26	R	Lucky Strike Lights	K-F	46	A
Carlton	K-F	7	A	Lucky Strike	100	46	A
Carlton Men.	K-FM	16	A	Lucky Strike Lights	100	46	A
Carlton (Box)	K-F	6	A	Marlboro (Box)	L-F	42	PM
Carlton	100	22	A	Marlboro	K-F	15	PM
Carlton (Box)	100	22	A	Marlboro 25's	K-F	X	PM
Carlton Men.	100M	48	A	Marlboro Lights	K-F	13	PM
Carlton Slims Deluxe (Box)	100	46	A	Marlboro Lights 25's	K-F	X	PM
Carlton Slims Deluxe Men.(Box)	100M	48	A	Marlboro Lights (Box)	K-F	12	PM
Carlton	120	29	A	Marlboro Lights	100	25	PM
Carlton Men.	120M	37	A	Marlboro Lights (Box)	100	26	PM
Century	K-F	XI	R	Marlboro Men.	K-FM	21	PM
Century Lights	K-F	XI	R	Marlboro	100	28	PM
Century	100	XI	R	Marlboro (Box)	100	46	PM
Century Lights	100	XI	R	Max	120	46	LO
Chesterfield	R-NF	48	LG	Max Men.	120M	48	LO
Chesterfield King	K-NF	43	LG	Merit (Box)	K-F	10	PM
Chesterfield	K-F	46	LG	Merit	K-F	10	PM
English Ovals (Box)	R-NF	48	PM	Merit Ultra Lights	K-F	8	PM
English Ovals (Box)	K-NF	48	PM	Merit Men.	K-FM	18	PM
Eve Slim Lights (Box)	100	46	LG	Merit Ultra Lights Men.	K-FM	16	PM
Eve Slim Lights Men. (Box)	100M	48	LG	Merit	100	25	PM
Eve Lights (Box)	120	46	LG	Merit Ultra Lights	100	22	PM
Eve Lights Men. (Box)	120M	48	LG	Merit Men.	100M	34	PM
Galaxy	K-FC	46	PM	Merit Ultra Lights Men.	100M	30	PM
Half & Half	K-F	46	A	Montclair	K-FM	48	A
Hi-Lite (Box)	100	46	PM	More	120	29	R
H. Tareyton	K-NF	48	A	More Men.	120M	37	R
Iceberg 100's	100M	48	A	More Lights (Box)	100	38	R
Kent (Box)	L-F	42	LO	More Lights Men. (Box)	100M	39	R
Kent	K-F	13	LO	Newport (Box)	L-FM	48	LO

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ALPHABETICAL INDEX OF BRANDS (cont.)

BRAND	SIZE	PAGE NO.*	COMPANY**	BRAND	SIZE	PAGE NO.*	COMPANY**
Newport	K-FM	21	LO	Satin	100	25	LO
Newport	100M	36	LO	Satin Men.	100M	34	LO
Newport Lights	K-FM	18	LO	Silva Thins	100	38	A
Newport Lights (Box)	L-FM	48	LO	Silva Thins Men.	100M	39	A
Newport Lights	100M	32	LO	Spring	100M	48	LO
Now (Box)	L-F	6	R	St. Moritz	100	46	LG
Now	K-F	7	R	St. Moritz Men.	100M	48	LG
Now Men.	K-FM	16	R	Sterling Special Blend (Box)	100	26	R
Now	100	22	R	Sterling Special Blend			
Now Men.	100M	30	R	Men. (Box)	100M	35	R
Old Gold	K-NF	48	LO	Tall	120	46	A
Old Gold	K-F	15	LO	Tall Men.	120M	48	A
Old Gold Lights	K-F	46	LO	Tareyton	K-FC	40	A
Old Gold	100	46	LO	Tareyton	100C	41	A
Pall Mall	K-F	46	A	Tareyton Lights	K-FC	40	A
Pall Mall Extra Light	K-F	46	A	Tareyton Long Lights	100C	41	A
Pall Mall Lights	100	24	A	Triumph	K-F	46	LO
Pall Mall Lights Men.	100M	48	A	Triumph Men.	K-FM	48	LO
Pall Mall	K-NF	43	A	Triumph	100	46	LO
Pall Mall	100	27	A	Triumph Men.	100M	48	LO
Parliament Lights (Box)	L-F	42	PM	True	K-F	8	LO
Parliament Lights	K-F	11	PM	True	100	24	LO
Parliament Lights	100C	41	PM	True Men.	K-FM	17	LO
Philip Morris	R-NF	43	PM	True Men.	100M	32	LO
P.M. Commander	K-NF	43	PM	Vantage	K-F	10	R
P.M. Inter. (Box)	100	46	PM	Vantage Men.	K-FM	18	R
P.M. Inter. Men. (Box)	100M	48	PM	Vantage	100	24	R
Players (Box)	R-NF	48	PM	Vantage Men.	100M	33	R
Players (Box)	K-F	13	PM	Vantage Ultra Lights	K-F	9	R
Players Men. (Box)	K-FM	20	PM	Vantage Ultra Lights Men.	KFM	16	R
Players (Box)	100	27	PM	Vantage Ultra Lights	100	23	R
Players (Box)	100M	35	PM	Vantage Ultra Lights Men.	100M	30	R
Raleigh	K-NF	48	BW	Viceroy	K-F	14	BW
Raleigh	K-F	14	BW	Viceroy Rich Lights	K-F	11	BW
Raleigh Lights	K-F	11	BW	Viceroy Rich Lights	100	25	BW
Raleigh Lights	100	24	BW	Viceroy	100	27	BW
Raleigh	100	27	BW	Virginia Slims	100	38	PM
Richland	K-F	X	BW	Virginia Slims Men.	100M	39	PM
Richland Menthol	K-FM	X	BW	Va. Slims Lights (Box)	100	38	PM
Salem	K-FM	20	R	Va. Slims Lights			
Salem	100M	36	R	Men. (Box)	100M	39	PM
Salem Lights	K-FM	19	R	Winston (Box)	L-F	42	R
Salem Lights	100M	33	R	Winston	K-F	15	R
Salem Ultra Lights	K-FM	17	R	Winston Lights	K-F	12	R
Salem Ultra Lights	100M	30	R	Winston Ultra Lights	K-F	8	R
Salem Slim Lights (Box)	100M	39	R	Winston Lights	100	26	R
Saratoga (Box)	120	29	PM	Winston	100	28	R
Saratoga Men. (Box)	120M	37	PM	Winston Ultra Lights	100	23	R
				Winston International	95	46	R

*Location of complete analytical data in report.

**Key: A = American; BW = Brown & Williamson; LG = Liggett Group; LO = Lorillard; PM = Philip Morris; R = Reynolds

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HIGHLIGHTSNEW BRANDR. J. REYNOLDSRITZ 100 BOX (PLAIN & MENTHOL)

R. J. Reynolds will be test marketing Ritz 100 Box (plain and menthol) cigarettes in Memphis, Tennessee; Oklahoma City, Oklahoma; Atlanta, Georgia; and the state of Washington. These cigarettes are packaged in a flip-top box with the Yves Saint Laurent designer logo. These cigarettes will be sold at a premium price (10¢ more per pack) in Memphis and Oklahoma City and at the regular price in Atlanta and the state of Washington. These cigarettes deliver 11 mg tar and 0.8 mg nicotine, and the circumference is 24 mm. The blend of the plain cigarette is typical of the Winston blend; the blend of the menthol cigarette utilizes 32% reconstituted tobacco.

BRAND MODIFICATIONSBROWN & WILLIAMSONBARCLAY 80 (BOX) & 85

Brown & Williamson has added reconstituted tobacco (19%) and expanded stems (5%) to the blends of Barclay 80 (Box) and Barclay 85 cigarettes. The amount of expanded tobacco decreased (32 to 10%). The tobacco weight and rod density of Barclay 80 (Box) and Barclay 85 cigarettes increased and the total alkaloids decreased as a result of these blend changes. No changes were noted in smoke deliveries.

RALEIGH 85

The tar (13.6 to 13.1 mg) and CO (16.5 to 13.8 mg) deliveries of Raleigh 85 cigarettes were decreased as a result of a change to a more porous cigarette paper (23 to 12 sec.).

VICEROY 85

The tar (15.5 to 14.2 mg) and CO (16.0 to 14.2 mg) deliveries were decreased on Viceroy 85 cigarettes as a result of a change to a more porous cigarette paper (23 to 12 sec.).

LORILLARDKENT GOLDEN LIGHTS MENTHOL 85

The tar (8.7 to 8.0 mg) and CO (9.0 to 7.4 mg) deliveries of Kent Golden Lights Menthol 85 cigarettes were decreased resulting from an increase in filter ventilation (34 to 43%).

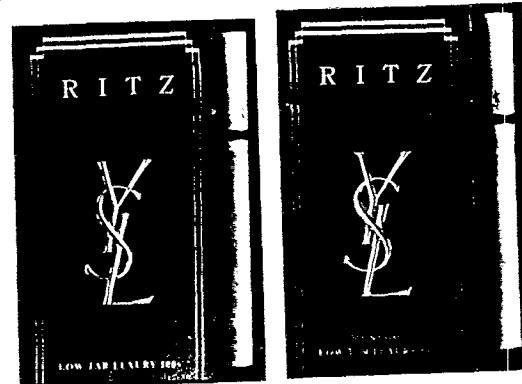
R. J. REYNOLDSVANTAGE MENTHOL 85

The tar (9.4 to 7.9 mg) and CO (12.2 to 8.8 mg) deliveries decreased on Vantage Menthol 85 cigarettes resulting from an increase in ventilation (16 to 40%). The increased ventilation correlates with a change in the filter configuration in that the four grooves on the Filtrona-type filter are now positioned adjacent to the tobacco rod. A change in fiber denier and shape (1.8/R to 3.3/Y) correlated with a lower filtration efficiency (63 to 54%). A change to a less porous cigarette paper (16 to 20 sec.) with an increased level of paper component (0.9 to 1.4%) was noted. A higher smoke menthol delivery (0.22 to 0.30 mg) correlated with a higher filler menthol level (1.6 to 2.3 mg).

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R. J. REYNOLDS
RITZ 100 BOX (PLAIN & MENTHOL)

R. J. Reynolds will be test marketing Ritz 100 Box (plain and menthol) cigarettes in Memphis, Tennessee; Oklahoma City, Oklahoma; Atlanta, Georgia; and the state of Washington. These cigarettes are packaged in a flip-top box with the Yves Saint Laurent designer logo. The circumference is 24 mm. The blend of the plain cigarette is typical of the Winston blend; the blend of the menthol cigarette utilizes 32% reconstituted tobacco. Data are based on a limited sample.



	<u>Ritz</u> <u>100 (Box)</u>	<u>Ritz Menthol</u> <u>100 (Box)</u>
--	---------------------------------	---

Smoke

Butt Length, mm	38	38
FTC Tar, mg/cig.	10.6	11.8
Nicotine, mg/cig.	0.82	0.89
Puffs/cig.	9.7	10.0
CO, mg/cig.	13.7	12.6
NO, mg/cig.	0.32	0.27

Cigarette

Total RTD, mm of H ₂ O	153	121
Length, mm	97.9	97.9
Circumference, mm	24.1	24.1

Paper

Porosity, sec.	13	12
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Filter

Type	CA	CA
RTD, mm of H ₂ O	115	98
Length, mm	31.0	31.0
Weight, g	0.19	0.19
Fiber denier/shape	4.0/Y	4.2/Y
Tipping paper length, mm	35	35
Ventilation, %	27	32
Type/Rows	Laser/2	ESP

Filler

Wt. of tobacco, g (Corrected to 12.5% O.V.)	0.772	0.781
Rod Density, g/cc	0.250	0.253
Reconstituted Tob., %	23	32
E.S., %	None	None
Expanded Tobacco, %	16	9

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BRAND MODIFICATIONSBROWN & WILLIAMSON
BARCLAY 80 (BOX) & 85

Brown & Williamson has added reconstituted tobacco and expanded stems to the blends of Barclay 80 (Box) and Barclay 85 cigarettes. The amount of expanded tobacco decreased. The tobacco weight and rod density of Barclay 80 (Box) and Barclay 85 cigarettes increased and the total alkaloids decreased as a result of these blend changes. No changes were noted in smoke deliveries.

	<u>Barclay 80 (Box)</u>		<u>Barclay 85</u>	
	<u>Previous</u>	<u>Present</u>	<u>Previous</u>	<u>Present</u>
<u>Smoke</u>				
Butt Length, mm	35	35	35	35
FTC Tar, mg/cig.	1.2	1.4	1.0	1.1
Nicotine, mg/cig.	0.14	0.14	0.11	0.12
Puffs/cig.	7.8	8.0	8.4	8.9
CO, mg/cig.	1.1	1.2	0.6	0.6
NO, mg/cig.	0.03	0.04	0.01	0.04
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	25	26	20	20
<u>Filter</u>				
RTD, mm of H ₂ O	109	105	89	81
Ventilation, %	83	82	86	85
<u>Filler</u>				
Total alkaloids, % (DWB)	2.65	1.85	2.69	1.92
Total red. sugars, % (DWB)	7.9	8.3	7.9	8.8
Wt. of tobacco, g (Corrected to 12.5% O.V.)	0.533	0.628	0.550	0.678
Rod Density, g/cc	0.203	0.240	0.194	0.240
Reconstituted Tob., %	None	19	None	19
E.S., %	None	5	None	5
Expanded Tobacco, %	32	10	32	10

BROWN & WILLIAMSON
RALEIGH 85

The tar, CO and NO deliveries of Raleigh 85 cigarettes were decreased as a result of a change to a more porous cigarette paper.

<u>Raleigh 85</u>		
	<u>Previous</u>	<u>Present</u>
<u>Smoke</u>		
Butt Length, mm	29	29
FTC Tar, mg/cig.	13.6	13.1
Nicotine, mg/cig.	0.90	0.88
Puffs/cig.	7.3	7.4
CO, mg/cig.	16.5	13.8
NO, mg/cig.	0.36	0.29
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	114	116
Static Burn. Time, min.	6.7	6.8
<u>Paper</u>		
Components		
Type	Cit.	Cit.
Percent	0.4	0.3
Porosity, sec.	23	12
<u>Filter</u>		
RTD, mm of H ₂ O	64	64

BROWN & WILLIAMSON
VICEROY 85

The tar, CO and NO deliveries were decreased on Viceroy 85 cigarettes as a result of a change to a more porous cigarette paper.

<u>Viceroy 85</u>		
	<u>Previous</u>	<u>Present</u>
<u>Smoke</u>		
Butt Length, mm	29	29
FTC Tar, mg/cig.	15.5	14.2
Nicotine, mg/cig.	0.96	0.92
Puffs/cig.	7.4	7.4
CO, mg/cig.	16.0	14.2
NO, mg/cig.	0.38	0.30
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	114	115
Static Burn. Time, min.	7.0	7.0
<u>Paper</u>		
Components		
Type	Cit.	Cit.
Percent	0.5	0.4
Porosity, sec.	23	12
<u>Filter</u>		
RTD, mm of H ₂ O	51	58

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LORILLARD
KENT GOLDEN LIGHTS MENTHOL 85

The tar, CO and NO deliveries of Kent Golden Lights Menthol 85 cigarettes were decreased resulting from an increase in filter ventilation.

Kent Golden
 Lights Menthol 85

	<u>Previous</u>	<u>Present</u>
<u>Smoke</u>		
Butt Length, mm	35	35
FTC Tar, mg/cig.t.	8.7	8.0
Nicotine, mg/cig.t.	0.76	0.73
Puffs/cig.t.	7.1	7.4
CO, mg/cig.t.	9.0	7.4
NO, mg/cig.t.	0.18	0.14
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	96	92
<u>Filter</u>		
RTD, mm of H ₂ O	76	77
Ventilation, %	34	43
Types/Rows of Holes	Porous	Porous
<u>Menthol, mg/cig.t.</u>		
Smoke	0.34	0.34
Filler	1.7	2.0
Filter	1.1	1.3

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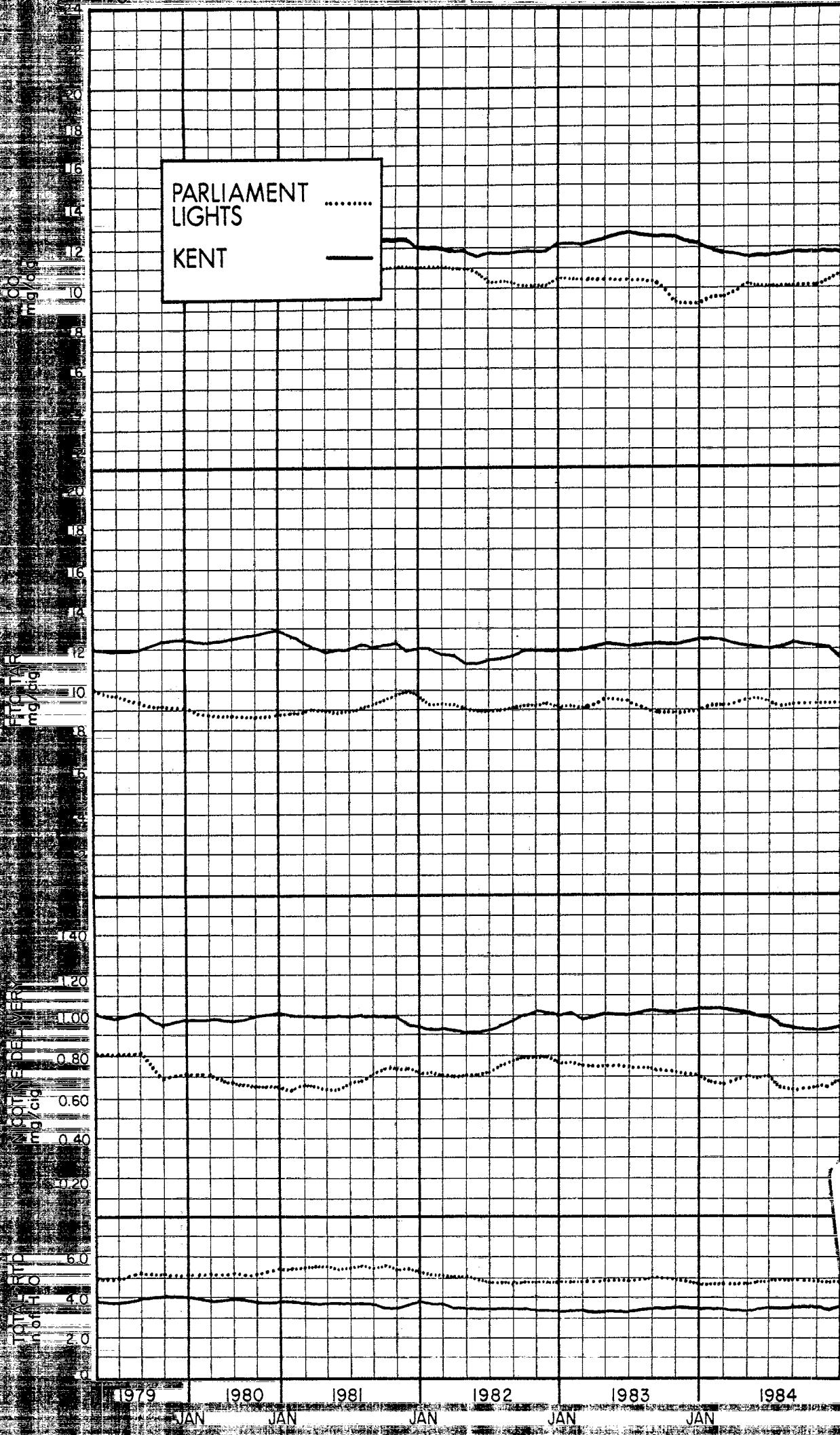
R. J. REYNOLDS
VANTAGE MENTHOL 85

The tar, CO and NO deliveries decreased on Vantage Menthol 85 cigarettes resulting from an increase in ventilation. The increased ventilation correlates with a change in the filter configuration in that the four grooves on the Filtrona-type filter are now positioned adjacent to the tobacco rod. A change in fiber denier and shape correlated with a lower filtration efficiency. A change to a less porous cigarette paper with an increased level of paper component was noted. A higher smoke menthol delivery correlated with a higher filler menthol level.

	<u>Vantage Menthol 85</u>	
	<u>Previous</u>	<u>Present</u>
<u>Smoke</u>		
Butt Length, mm	33	33
FTC Tar, mg/cig.t.	9.4	7.9
Nicotine, mg/cig.t.	0.70	0.70
Puffs/cig.t.	7.6	8.0
Filtration Eff., %	63	54
CO, mg/cig.t.	12.2	8.8
NO, mg/cig.t.	0.27	0.23
<u>Cigarette</u>		
Total RTD, mm of H ₂ O	114	109
<u>Paper</u>		
Components		
Type	Cit.	Cit.
Percent	0.9	1.4
Porosity, sec.	16	20
<u>Filter</u>		
RTD, mm of H ₂ O	84	108
Length, mm	25.1	25.1
Weight, g	0.30	0.29
Fiber denier/shape	1.8/R	3.3/Y
Ventilation, %	16	40
Type/Rows	MP/l	MP/l
<u>Menthol, mg/cig.t.</u>		
Smoke	0.22	0.30
Filler	1.6	2.3
Filter	1.4	1.2

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King Filter: Plain PARLIAMENT LIGHTS, KENT



BRAND INTRODUCTIONS25 CIGARETTES PER PACK

R. J. REYNOLDS

<u>Century 85</u>	<u>Century Lights 85</u>	<u>Century 100</u>	<u>Century Lights 100</u>	
30	34	38	38	<u>Smoke</u>
13.7	9.2	15.8	11.4	Butt Length, mm
1.00	0.76	1.19	0.88	FTC Tar, mg/cig.
8.4	8.4	10.0	9.6	Nicotine, mg/cig.
50	58	53	51	Puffs/cig.
34.3	31.9	36.8	30.9	Filtration Eff., %
14.1	11.6	17.2	12.4	Filler Rod TPM, mg/cig.
0.33	0.27	0.38	0.28	CO, mg/cig
				NO, mg/cig.
150	150	146	129	<u>Cigarette</u>
8.7	8.0	8.5	7.1	Total RTD, mm of H ₂ O
84.0	83.8	98.9	98.7	Static Burn. Time, min.
24.0	24.1	24.0	24.0	Length, mm
				Circumference, mm
Phos.	Cit.	Phos.	Cit.	<u>Paper</u>
0.2	0.4	0.2	0.3	Components
22	20	21	24	Type
				Percent
				Porosity, sec.
CA	CA	CA	CA	<u>Filter</u>
95	125	99	98	Type
23.1	27.0	31.0	30.9	RTD, mm of H ₂ O
0.14	0.16	0.18	0.18	Length, mm
2.6/Y	2.5/Y	3.8/Y	3.7/Y	Weight, g
27	31	35	35	Fiber denier/shape
15	29	14	30	Tipping paper length, mm
ESP	ESP	ESP	ESP	Ventilation, %
				Type/Rows
1.79	1.85	1.83	1.84	<u>Filler</u>
8.1	7.5	7.6	9.1	Total alkaloids, % (DWB)
21	21	20	18	Total red. sugars, % (DWB)
None	None	None	None	Reconstituted Tob., %
29	16	13	23	Expanded Stems, %
0.652	0.651	0.768	0.744	Expanded Tob., %
0.233	0.248	0.246	0.238	Wt. of tob., g (Corrected to 12.5% O.V.)
				Rod Density, g/cc

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SMOKING MODIFICATIONS FOR BARCLAY-TYPE FILTER CIGARETTES

The FTC has determined that its present testing methodology does not accurately measure Brown & Williamson's Barclay cigarette smoke deliveries. The FTC has also found there is a significant likelihood the same problem exists with respect to Kool Ultra 85 and 100. These brands were tested using both the standard holder and the modified holder. All smoke data are higher for these cigarettes when using the modified holder because this holder reduces the amount of ventilation through the cigarette. No other brands show the change in smoke deliveries when using the modified holder.

<u>Barclay 80 (Box)</u>		<u>Barclay 85</u>		<u>Barclay Menthol 85</u>		
	<u>Standard</u>	<u>Modified</u>	<u>Standard</u>	<u>Modified</u>	<u>Standard</u>	<u>Modified</u>
Butt Length, mm	35	35	35	35	35	35
FTC Tar, mg/cig.t.	1.4	6.0	1.1	6.8	1.1	4.7
Nicotine, mg/cig.t.	0.14	0.48	0.12	0.53	0.12	0.41
Puffs/cig.t.	8.0	7.0	8.9	7.8	7.9	7.3
CO, mg/cig.t.	1.2	4.6	0.6	4.6	0.7	4.9
NO, mg/cig.t.	0.04	0.10	0.04	0.10	0.03	0.14
 <u>Barclay 100</u>						
	<u>Standard</u>	<u>Modified</u>		<u>Standard</u>	<u>Modified</u>	
Butt Length, mm	39	39		39	39	
FTC Tar, mg/cig.t.	2.8	8.0		3.1	8.2	
Nicotine, mg/cig.t.	0.26	0.60		0.29	0.64	
Puffs/cig.t.	9.2	8.5		9.4	8.6	
CO, mg/cig.t.	1.5	5.9		1.6	6.1	
NO, mg/cig.t.	0.04	0.16		0.05	0.16	
 <u>Kool Ultra 85</u>						
	<u>Standard</u>	<u>Modified</u>		<u>Standard</u>	<u>Modified</u>	
Butt Length, mm	35	35		39	39	
FTC Tar, mg/cig.t.	2.2	7.7		5.4	8.3	
Nicotine, mg/cig.t.	0.23	0.63		0.49	0.72	
Puffs/cig.t.	7.8	6.9		9.0	8.6	
CO, mg/cig.t.	1.8	6.5		3.3	7.8	
NO, mg/cig.t.	0.06	0.16		0.09	0.18	

ALPHABETICAL LISTING OF BRANDS WITH TAR AND NICOTINE CONTENT

Tar¹ and Nicotine² Content of Two Hundred Seven (207) Varieties of Domestic Cigarettes

BRAND	TYPE ³	TAR, ¹ MG/CIGT.	NICOTINE, ² MG/CIGT.	BRAND	TYPE ³	TAR, ¹ MG/CIGT.	NICOTINE, ² MG/CIGT.
ALPINE	F,M,SP, 85 mm	14	0.8	Golden Lights	F,M,SP, 85 mm	9	0.7
Belair	F,M,SP, 85 mm	9	0.7	Golden Lights 100's	F,SP, 100 mm	9	0.8
Belair	F,M,SP, 100 mm	9	0.7	Golden Lights 100's	F,M,SP, 100 mm	9	0.7
BENSON & HEDGES	Reg., F,HP, 70 mm	1	0.1	Half & Half	F,SP, 85 mm	17	1.2
BENSON & HEDGES	F,HP, 85 mm	15	1.1	Herbert Tareyton	NF,SP, 85 mm	26	1.7
BENSON & HEDGES 100's	F,HP, 100 mm	17	1.1	Iceberg 100's	F,M,SP, 100 mm	3	0.3
BENSON & HEDGES 100's	F,M,HP, 100 mm	17	1.1	Kent	F,HP, 80 mm	12	0.9
BENSON & HEDGES 100's	F,SP, 100 mm	17	1.1	Kent	F,SP, 85 mm	12	0.9
BENSON & HEDGES 100's	F,M,SP, 100 mm	17	1.1	Kent III	F,SP, 85 mm	3	0.3
BENSON & HEDGES LIGHTS	F,SP, 100 mm	10	0.7	Kent	F,SP, 100 mm	14	1.0
BENSON & HEDGES LIGHTS	F,M,SP, 100 mm	10	0.7	Kent	F,M,SP, 100 mm	15	1.2
B & H DELUXE ULTRA LIGHTS	F,H,P, 100 mm	6	0.5	Kent III	F,SP, 100 mm	4	0.4
B & H DELUXE ULTRA LIGHTS	F,M,HP, 100 mm	6	0.5	Kool	Reg.,NF,M,SP, 70 mm	20	1.2
Bright	F,M,SP, 85 mm	6	0.5	Kool	F,M,HP, 80 mm	16	1.1
Bright	F,M,SP, 100 mm	7	0.6	Kool	F,M,SP, 85 mm	17	1.1
Bull Durham	F,SP, 85 mm	28	1.8	Kool Lights	F,M,SP, 85 mm	9	0.7
CAMBRIDGE	F,HP, 85 mm	*	*	Kool Milds	F,M,SP, 85 mm	11	0.8
CAMBRIDGE	F,SP, 85 mm	1	0.1	Kool Ultra	F,M,SP, 85 mm	**	**
CAMBRIDGE	F,SP, 100 mm	5	0.4	Kool Lights 100's	F,M,SP, 100 mm	10	0.8
Camel	Reg.,NF,SP, 70 mm	20	1.2	Kool Milds	F,M,SP, 100 mm	11	0.8
Camel	F,SP, 85 mm	15	1.0	Kool Super Longs	F,M,SP, 100 mm	15	1.0
Camel Lights	F,HP, 80 mm	8	0.6	Kool Ultra 100's	F,M,SP, 100 mm	**	**
Camel Lights	F,SP, 85 mm	8	0.6	L & M	F,HP, 80 mm	14	0.9
Camel Lights	F,SP, 100 mm	12	0.8	L & M	F,SP, 85 mm	14	0.9
Carlton	F,HP, 85 mm	*	*	L & M Lights	F,SP, 85 mm	9	0.8
Carlton	F,SP, 85 mm	1	0.1	L & M	F,SP, 100 mm	14	1.0
Carlton	F,M,SP, 85 mm	1	0.1	L & M Lights	F,SP, 100 mm	8	0.8
Carlton	F,M,HP, 100 mm	1	0.1	L & M Lights	F,M,SP, 100 mm	8	0.8
Carlton	F,HP, 100 mm	1	0.1	Lark	F,SP, 85 mm	14	1.0
Carlton 100's	F,SP, 100 mm	5	0.4	Lark Lights	F,SP, 85 mm	13	0.9
Carlton 100's	F,M,SP, 100 mm	5	0.4	Lark 100's	F,SP, 100 mm	16	1.1
Carlton	F,SP, 120 mm	6	0.6	Lark Lights 100's	F,SP, 100 mm	14	1.0
Carlton	F,M,SP, 120 mm	6	0.5	Long Johns	F,SP, 120 mm	18	1.3
Chesterfield	Reg.,NF,SP, 70 mm	21	1.2	Long Johns	F,M,SP, 120 mm	17	1.3
Chesterfield	NF,SP, 85 mm	25	1.5	Lucky Strike	Reg.,NF,SP, 70 mm	24	1.4
Chesterfield	F,SP, 85 mm	15	1.0	Lucky Strike	F,SP, 85 mm	11	0.8
Chesterfield	F,SP 101 mm	15	1.0	Lucky Strike	F,HP, 85 mm	11	0.8
Decade	F,SP, 85 mm	6	0.5	Lucky 100's	F,SP, 100 mm	3	0.3
Decade	F,M,SP, 85 mm	6	0.5	MARLBORO	F,HP, 80 mm	17	1.1
Doral II	F,SP, 85 mm	5	0.4	MARLBORO	F,M,HP, 80 mm	15	0.9
Doral II	F,M,SP, 85 mm	5	0.4	MARLBORO	F,SP, 85 mm	17	1.0
ENGLISH OVALS	Reg.,NF,HP, 70 mm	22	1.5	MARLBORO	F,M,SP, 85 mm	15	0.9
ENGLISH OVALS	NF,HP, 85 mm	29	2.1	MARLBORO LIGHTS	F,HP, 85 mm	10	0.7
Eve Lights	F,SP, 100 mm	13	1.0	MARLBORO LIGHTS	F,SP, 85 mm	11	0.7
Eve Lights	F,M,SP, 100 mm	13	1.0	MARLBORO	F,HP, 100 mm	17	1.1
Eve Lights	F,HP, 120 mm	14	1.0	MARLBORO	F,SP, 100 mm	17	1.1
Eve Lights	F,M,HP, 120 mm	14	1.1	MARLBORO LIGHTS	F,SP, 100 mm	11	0.7
GALAXY	F,SP, 85 mm	15	0.9	Max	F,SP, 120 mm	18	1.4
Golden Lights	F,SP, 85 mm	9	0.7	Max	F,M,SP, 120 mm	18	1.4

¹TPM dry (tar) - milligrams total particulate matter less nicotine and water.²Milligrams total alkaloids reported as nicotine.³F = filter; NF = nonfilter; M = menthol; HP = hard pack; SP = soft pack; mm = millimeter

*Indicates "tar" below 0.5 mg; nicotine below 0.05 mg per cigarette.

**It is likely, the present tar and nicotine methodology does not measure accurately Brown & Williamson's Kool Ultra cigarettes. This problem exists with the Barclay cigarettes and; therefore, Barclay data is not reported.

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CIGARETTE BRANDS RANKED ACCORDING TO SIZE AND SALES¹

PHILLIP MORRIS DATA

	SALES	FTC TAR, MG/CIKT.	NICOTINE, MG/CIKT.		SALES	FTC TAR, MG/CIKT.	NICOTINE, MG/CIKT.
<u>120 MM FILTER PLAIN</u>							
More	0.95	17.7	1.30	Tareyton	0.75	12.3	0.95
SARATOGA (BOX)	0.34	14.1	0.99	Lark Lights	0.18	11.3	0.84
Carlton	0.31	6.8	0.63	Lark	0.12	12.8	0.92
<u>120 MM FILTER MENTHOL</u>							
More	0.78	17.0	1.37	B & H MULTIFILTER	0.09	12.1	0.86
SARATOGA (BOX)	0.15	14.0	0.81	Tareyton Lights	0.08	5.3	0.42
Carlton	-	6.0	0.58	B & H MULTIFILTER MEN.	0.01	13.8	0.90
<u>100 MM FILTER PLAIN</u>							
MARLBORO	2.93	16.3	1.08	<u>85 MM FILTER CHARCOAL</u>		<u>85 MM FILTER PLAIN</u>	
Winston	2.93	16.3	1.20	TAREYTON	8.61	16.6	1.10
MARLBORO LIGHTS	2.43	10.7	0.76	Winston	8.06	15.7	1.11
Winston Lights	2.23	11.1	0.86	MARLBORO LIGHTS	4.61	11.3	0.75
BENSON & HEDGES	1.77	16.3	1.07	Winston Lights	3.17	10.2	0.77
MERIT	1.66	10.2	0.72	MERIT	2.39	8.3	0.59
Vantage	1.17	9.3	0.73	Vantage	2.38	8.2	0.65
B & H LIGHTS	1.11	10.5	0.76	MARLBORO LIGHTS (BOX)	2.10	11.0	0.74
Pall Mall	1.09	15.0	1.18	Camei	1.69	15.0	1.10
B & H DELUXE ULTRA LIGHTS (BOX)	0.97	6.4	0.48	Camel Lights	1.51	8.8	0.69
Carlton	0.80	5.4	0.45	Kent	1.22	11.6	0.93
Kent	0.76	13.6	1.09	Viceroy	1.02	14.2	0.92
Kent III	0.70	5.4	0.56	Raleigh	0.79	13.1	0.88
MARLBORO LIGHTS (BOX)	0.66	11.0	0.76	MERIT ULTRA LIGHTS	0.70	4.0	0.36
Kent Golden Lights	0.62	8.9	0.80	True	0.69	5.4	0.48
Vantage Ultra Lights	0.61	5.5	0.47	Kent Golden Lights	0.68	7.8	0.72
Raleigh	0.54	15.0	1.06	Kent III	0.64	5.7	0.39
True	0.53	8.0	0.75	Carlton	0.62	1.7	0.18
MERIT ULTRA LIGHTS	0.51	4.9	0.40	L & M	0.62	12.6	0.93
Now	0.49	3.6	0.34	Barclay	0.50	*	*
Winston Ultra Lights	0.49	5.9	0.48	Vantage Ultra Lights	0.44	6.0	0.50
Camei Lights	0.46	11.0	0.79	PARLIAMENT LIGHTS	0.39	9.3	0.68
Viceroy	0.34	15.2	1.09	Old Gold	0.27	16.4	1.29
Barclay	0.33	*	*	Winston Ultra Lights	0.27	5.6	0.49
Carlton (Box)	0.26	0.9	0.12	Now	0.22	1.5	0.18
Satin	0.23	10.4	0.88	PLAYERS (BOX)	0.21	11.7	0.82
Sterling Special Blend (Box)	0.20	11.2	0.87	Raleigh Lights	0.18	10.0	0.77
Raleigh Lights	0.19	9.8	0.76	Lucky Strike	0.15	10.4	0.84
L & M	0.18	12.4	0.94	Viceroy Rich Lights	0.12	10.1	0.81
PLAYERS (BOX)	0.16	13.8	0.94	CAMBRIDGE	0.04	1.5	0.16
Viceroy Rich Lights	0.14	10.1	0.81	CAMBRIDGE (BOX)	-	0.0	0.00
CAMBRIDGE	0.10	5.5	0.50	MERIT (BOX)	-	8.4	0.62
Pall Mall Lights	0.05	9.9	0.78	Carlton (Box)	-	0.0	0.00
<u>100 MM FILTER MENTHOL</u>							
Salem Lights	2.41	9.0	0.72	Lucky Strike (Box)	-	11.0	0.89
Salem	2.13	15.6	1.15	<u>85 MM FILTER MENTHOL</u>		<u>80 MM FILTER (BOX)</u>	
Kool	1.95	13.2	0.89	Kool	5.83	15.6	1.09
BENSON & HEDGES	1.64	16.3	1.10	Salem	7.25	14.9	1.02
B & H LIGHTS	0.96	10.6	0.76	Salem Lights	2.92	9.7	0.74
B & H DELUXE ULTRA LIGHTS (BOX)	0.64	5.9	0.47	Newport	2.13	16.3	1.29
Salem Ultra Lights	0.60	5.5	0.46	Kool Milds	1.30	10.7	0.82
Newport	0.58	19.0	1.48	Belair	0.62	10.0	0.77
Belair	0.53	8.7	0.63	Vantage	0.41	7.9	0.70
MERIT	0.33	10.4	0.71	MERIT	0.37	7.9	0.57
True	0.28	8.2	0.78	MARLBORO	0.35	16.2	1.08
Now	0.28	3.4	0.34	True	0.33	5.3	0.51
Kool Lights	0.25	9.4	0.77	Newport Lights	0.32	7.4	0.68
Bright	0.19	6.6	0.55	Salem Ultra Lights	0.29	5.3	0.46
Kool Ultra	0.18	*	*	Kool Lights	0.27	8.6	0.69
MERIT ULTRA LIGHTS	0.17	4.2	0.36	Carlton	0.24	1.0	0.12
Satin	0.14	10.2	0.89	MERIT ULTRA LIGHTS	0.19	3.9	0.32
Sterling Special Blend (Box)	0.12	11.5	0.90	Kool Ultra	0.16	*	*
Kent Golden Lights	0.10	8.1	0.76	PLAYERS (BOX)	0.12	12.1	0.80
PLAYERS (BOX)	0.09	13.4	0.94	Now	0.10	1.6	0.18
Barclay	0.09	*	*	Bright	0.09	6.5	0.54
Vantage	0.08	9.4	0.69	Barclay	0.08	*	*
Newport Lights	0.07	8.3	0.77	ALPINE	0.06	16.3	1.06
Vantage Ultra Lights	0.06	5.4	0.48	Vantage Ultra Lights	0.04	5.1	0.44
<u>100 MM FILTER SLIM</u>							
VIRGINIA SLIMS	0.98	14.3	0.97	Kent Golden Lights	0.04	8.0	0.73
VIRGINIA SLIMS LIGHTS (BOX)	0.97	9.5	0.66	<u>85 MM NONFILTER</u>		<u>70 MM NONFILTER</u>	
More Lights (Box)	0.28	9.5	0.81	MARLBORO	9.13	16.1	1.06
Silva Thins	0.10	10.6	0.92	Winston	0.65	14.7	1.10
<u>100 MM FILTER SLIM MENTHOL</u>							
VIRGINIA SLIMS LIGHTS (BOX)	1.13	9.0	0.63	PARLIAMENT LIGHTS	0.50	9.5	0.71
VIRGINIA SLIMS	0.84	15.3	0.98	Camei Lights	0.21	9.7	0.79
Salem Slim Lights (Box)	0.55	8.0	0.68	Barclay	0.14	*	*
More Lights (Box)	0.18	9.4	0.77	Kent	0.04	11.3	0.91
Silva Thins	0.03	10.8	0.90	Now	-	0.0	0.00
<u>100 MM FILTER CHARCOAL</u>							
PARLIAMENT LIGHTS	0.63	11.3	0.82	85 MM NONFILTER	4.40	23.2	1.50
Tareyton	0.62	12.0	0.93	CAMEL	0.56	21.5	1.48
Tareyton Long Lights	0.12	8.0	0.67	CHESTERFIELD KING	0.16	25.2	1.56
Lark Lights	0.11	13.0	0.97	P.M. COMMANDER			
Lark	0.06	14.3	1.03	70 MM NONFILTER	2.84	19.2	1.39
<u>100 MM FILTER CHARCOAL</u>							
PARLIAMENT LIGHTS	0.63	11.3	0.82	Lucky Strike	1.00	24.7	1.62
Tareyton	0.62	12.0	0.93	PHILIP MORRIS	0.02	20.0	1.24
Tareyton Long Lights	0.12	8.0	0.67				
Lark Lights	0.11	13.0	0.97				
Lark	0.06	14.3	1.03				

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

ALPHABETICAL LISTING OF BRANDS WITH TAR AND NICOTINE CONTENT (continued)

BRAND	TYPE ³	TAR ¹ MG/CIGT.	NICOTINE ² MG/CIGT.	BRAND	TYPE ³	TAR ¹ MG/CIGT.	NICOTINE ² MG/CIGT.	TAR RANKING
MERIT	F,SP, 85 mm	9	0.6	Rebel	F,SP, 85 mm	11	0.9	
MERIT	F,M,SP, 85 mm	9	0.6	Rebel	F,SP, 100 mm	12	1.0	
MERIT ULTRA LIGHTS	F,SP, 85 mm	4	0.3	St. Moritz	F,SP, 100 mm	15	1.1	
MERIT ULTRA LIGHTS	F,M,SP, 85 mm	4	0.3	St. Moritz	F,M,SP, 100 mm	15	1.1	
MERIT ULTRA LIGHTS	F,SP, 100 mm	6	0.5	Salem	F,M,SP, 85 mm	16	1.0	
MERIT ULTRA LIGHTS	F,M,SP, 100 mm	4	0.3	Salem Lights	F,M,SP, 85 mm	8	0.6	
MERIT	F,SP, 100 mm	11	0.7	Salem Ultra	F,M,SP, 85 mm	4	0.4	
MERIT	F,M,SP, 100 mm	10	0.7	Salem	F,M,SP, 100 mm	15	1.0	
Montclair	F,M,SP, 85 mm	16	1.0	Salem Lights	F,M,SP, 100 mm	9	0.7	
More Lights 100's	F,HP, 100 mm	8	0.6	Salem Slim Lights	F,M,HP, 100 mm	7	0.6	
More Lights 100's	F,M,HP, 100 mm	7	0.6	Salem Ultra	F,M,SP, 100 mm	5	0.4	
More	F,SP, 120 mm	17	1.1	SARATOGA	F,HP, 120 mm	14	0.9	
More	F,M,SP, 120 mm	15	1.2	SARATOGA	F,M,HP, 120 mm	14	1.0	
MULTIFILTER	F,SP, 85 mm	12	0.8	Satin	F,SP, 100 mm	10	0.8	
MULTIFILTER	F,M,SP, 85 mm	13	0.8	Satin	F,M,SP, 100 mm	10	0.8	
Newport Red	F,HP, 80 mm	13	1.0	Silva Thins	F,SP, 100 mm	12	1.0	
Newport	F,M,HP, 80 mm	16	1.1	Silva Thins	F,M,SP, 100 mm	12	1.0	
Newport Lights	F,M,HP, 80 mm	9	0.7	Spring 100's	F,M,SP, 100 mm	19	1.0	
Newport Red	F,SP, 85 mm	13	1.0	Tall	F,SP, 120 mm	19	1.5	
Newport	F,M,SP, 85 mm	17	1.1	Tall	F,M,SP, 120 mm	17	1.3	
Newport Lights	F,M,SP, 85 mm	9	0.7	Tareyton	F,SP, 85 mm	14	1.0	
Newport	F,M,SP, 100 mm	20	1.4	Tareyton Lights	F,SP, 85 mm	5	0.4	
Newport Lights 100's	F,M,SP, 100 mm	10	0.8	Tareyton	F,SP, 100 mm	14	1.0	
NORTHWIND	F,M,SP, 85 mm	10	0.7	Tareyton Long Lights	F,SP, 100 mm	7	0.6	
NORTHWIND 100's	F,M,SP, 100 mm	11	0.7	Triumph	F,SP, 85 mm	3	0.4	
Now	F,HP, 80 mm	*	*	Triumph	F,M,SP, 85 mm	3	0.3	
Now	F,SP, 85 mm	1	0.1	Triumph	F,SP, 100 mm	4	0.4	
Now	F,M,SP, 85 mm	1	0.1	Triumph	F,M,SP, 100 mm	4	0.5	
Now	F,HP, 100 mm	*	*	True	F,SP, 85 mm	5	0.4	
Now	F,SP, 100 mm	2	0.2	True	F,M,SP, 85 mm	5	0.4	
Now	F,M,SP, 100 mm	2	0.2	True	F,SP, 100 mm	8	0.6	
Old Gold Straight	NF,SP, 85 mm	26	1.6	True	F,M,SP, 100 mm	8	0.6	
Old Gold Filters	F,SP, 85 mm	18	1.2	Vantage	F,SP, 85 mm	9	0.7	
Old Gold Lights	F,SP, 85 mm	10	0.8	Vantage	F,M,SP, 85 mm	10	0.7	
Old Gold Filters	F,SP, 100 mm	20	1.4	Vantage Ultra Lights	F,SP, 85 mm	5	0.4	
omi 100's	F,M,SP, 100 mm	7	0.6	Vantage Ultra Lights	F,M,SP, 85 mm	5	0.4	
all Mail	NF,SP, 85 mm	24	1.4	Vantage	F,SP, 100 mm	9	0.7	
all Mail	F,SP, 85 mm	17	1.1	Vantage Ultra Lights	F,SP, 100 mm	5	0.4	
all Mail Extra Light	F,SP, 85 mm	7	0.6	Vantage Ultra Lights	F,M,SP, 100 mm	5	0.4	
all Mail	F,SP, 100 mm	16	1.2	Viceroy	F,SP, 85 mm	15	0.9	
all Mail Light	F,SP, 100 mm	9	0.8	Viceroy Rich Lights	F,SP, 85 mm	9	0.7	
all Mail Light	F,M,SP, 100 mm	13	1.0	Viceroy Super Longs	F,SP, 100 mm	14	1.0	
ARLIAMENT LIGHTS	F,HP, 80 mm	9	0.6	Viceroy Rich Lights	F,SP, 100 mm	10	0.8	
ARLIAMENT LIGHTS	F,SP, 85 mm	10	0.7	VIRGINIA SLIMS	F,SP, 100 mm	15	1.0	
ARLIAMENT LIGHTS 100's	F,SP, 100 mm	11	0.9	VIRGINIA SLIMS	F,M,SP, 100 mm	15	1.0	
HILIP MORRIS	NF,SP, 70 mm	22	1.3	VIRGINIA SLIMS LIGHTS	F,HP, 100 mm	8	0.6	
HILIP MORRIS COMMANDER	NF,SP, 85 mm	27	1.6	VIRGINIA SLIMS LIGHTS	F,M,HP, 100 mm	8	0.6	
Icayune	Reg.,NF,SP, 70 mm	18	1.0	Winston	F,HP, 80 mm	16	1.0	
AYERS	Reg.,NF,HP, 70 mm	27	1.9	Winston	F,SP, 85 mm	15	1.0	
aleigh	NF,SP, 85 mm	24	1.4	Winston Lights	F,SP, 85 mm	9	0.6	
aleigh	F,SP, 85 mm	15	1.0	Winston Ultra	F,SP, 85 mm	5	0.4	
aleigh Lights	F,SP, 85 mm	9	0.7	Winston 100's	F,SP, 100 mm	16	1.1	
aleigh	F,SP, 100 mm	16	1.1	Winston Lights 100's	F,SP, 100 mm	12	0.8	
aleigh Lights 100's	F,SP, 100 mm	10	0.8	Winston Ultra	F,SP, 100 mm	5	0.4	
				Winston International	F,SP, 100 mm	16	1.0	

¹TPM dry (tar) - milligrams total particulate matter less nicotine and water.²Milligrams total alkaloids reported as nicotine.³F = filter; NF = nonfilter; M = menthol; HP = hard pack; SP = soft pack; mm = millimeter

*Indicates "tar" below 0.5 mg; nicotine below 0.05 mg per cigarette.

2030081207

BRANDS RANKED ACCORDING TO FTC TAR

BRAND	SIZE	FTC TAR, NICOTINE, MG/CI GT. MG/CI GT.		BRAND	SIZE	FTC TAR, NICOTINE, MG/CI GT. MG/CI GT.	
1. CAMBRIDGE (BOX)	KF	0.00	0.00	52. Vantage Menthol	KFM	7.9	0.70
2. Carlton (Box)	KF	0.00	0.00	53. Tareyton Long Lights	100C	8.0	0.67
3. Now (Box)	LF	0.00	0.00	54. Salem Slim Lights (Box)	100M	8.0	0.68
4. Carlton (Box)	100	0.9	0.12	55. True	100	8.0	0.75
5. Carlton Men.	KFM	1.0	0.12	56. Kent Golden Lights Men.	KFM	8.1	0.73
6. BENSON & HEDGES (BOX)	RF	1.4	0.14	57. Newport Lights (Box)	LF	8.1	0.76
7. CAMBRIDGE	KF	1.5	0.16	58. Kent Golden Lights Men.	100M	8.1	0.76
8. Now	KF	1.5	0.18	59. Vantage	KF	8.2	0.65
9. Now Men.	KFM	1.6	0.18	60. True Men.	100M	8.2	0.78
10. Carlton	KF	1.7	0.18	61. MERIT	KF	8.3	0.59
11. Triumph	KF	3.3	0.36	62. Newport Lights	100M	8.3	0.77
12. Now Men.	100M	3.4	0.34	63. MERIT (BOX)	KF	8.4	0.62
13. Now	100	3.6	0.34	64. Kool Lights	KFM	8.6	0.69
14. Triumph Men.	KFM	3.6	0.38	65. Belair	100M	8.7	0.63
15. Kent III	KF	3.7	0.39	66. Camel Lights	KF	8.8	0.69
16. MERIT ULTRA LIGHTS MEN.	KFM	3.9	0.32	67. Kent Golden Lights	100	8.9	0.80
17. Iceberg 100's	100M	4.0	0.32	68. VA. SLIMS LIGHTS MEN. (BOX)	100M	9.0	0.63
18. MERIT ULTRA LIGHTS	KF	4.0	0.36	69. Salem Lights	100M	9.0	0.72
19. MERIT ULTRA LIGHTS MEN.	100M	4.2	0.36	70. Lucky Strike Lights	100	9.1	0.78
20. MERIT ULTRA LIGHTS	100	4.9	0.40	71. Old Gold Lights	KF	9.1	0.88
21. Triumph Men.	100M	4.9	0.48	72. PARLIAMENT LIGHTS	KF	9.3	0.68
22. Triumph	100	4.9	0.50	73. Vantage	100	9.3	0.73
23. Kent III (Box)	100	4.9	0.53	74. Vantage Men.	100M	9.4	0.69
24. Vantage Ultra Lights Men.	KFM	5.1	0.44	75. More Lights Men. (Box)	100M	9.4	0.77
25. Tareyton Lights	KFC	5.3	0.42	76. Kool Lights	100M	9.4	0.77
26. Carlton Men.	100M	5.3	0.44	77. VA. SLIMS LIGHTS (BOX)	100	9.5	0.66
27. Salem Ultra Lights	KFM	5.3	0.46	78. PARLIAMENT LIGHTS (BOX)	LF	9.5	0.71
28. True Men.	KFM	5.3	0.51	79. More Lights (Box)	100	9.5	0.81
29. Carlton	100	5.4	0.45	80. Salem Lights	KFM	9.7	0.74
30. Vantage Ultra Lights Men.	100M	5.4	0.48	81. Camel Lights (Box)	LF	9.7	0.79
31. True	KF	5.4	0.48	82. Raleigh Lights	100	9.8	0.76
32. Kent III	100	5.4	0.56	83. Pall Mall Lights	100	9.9	0.78
33. Salem Ultra Lights	100M	5.5	0.46	84. Belair	KFM	10.0	0.77
34. Vantage Ultra Lights	100	5.5	0.47	85. Raleigh Lights	KF	10.0	0.77
35. CAMBRIDGE	100	5.5	0.50	86. Viceroy Rich Lights	KF	10.1	0.81
36. Winston Ultra Lights	KF	5.6	0.49	87. Viceroy Rich Lights	100	10.1	0.81
37. B & H DELUXE U.L. MEN.(BOX)	100M	5.9	0.47	88. MERIT	100	10.2	0.72
38. Winston Ultra Lights	100	5.9	0.48	89. Winston Lights	KF	10.2	0.77
39. Vantage Ultra Lights	KF	6.0	0.50	90. Satin Men.	100M	10.2	0.89
40. Carlton Slims Deluxe (Box)	100	6.0	0.52	91. MERIT MEN.	100M	10.4	0.71
41. Carlton Slims Deluxe Men.(Box)	100M	6.0	0.52	92. Lucky Strike	KF	10.4	0.84
42. Carlton Men.	120M	6.0	0.58	93. Satin	100	10.4	0.88
43. B & H DELUXE U.L. (BOX)	100	6.4	0.48	94. B & H LIGHTS	100	10.5	0.76
44. Bright	KFM	6.5	0.54	95. B & H LIGHTS MEN.	100M	10.6	0.76
45. Bright	100M	6.6	0.55	96. Silva Thins	100	10.6	0.92
46. Carlton	120	6.8	0.63	97. Kool Milds	KFM	10.7	0.82
47. Pall Mall Extra Light	KF	7.0	0.68	98. Silva Thins Men.	100M	10.8	0.90
48. Newport Lights	KFM	7.4	0.68	99. MARLBORO LIGHTS (BOX)	KF	11.0	0.74
49. Lucky Strike Lights	KF	7.5	0.62	100. MARLBORO LIGHTS (BOX)	100	11.0	0.76
50. Kent Golden Lights	KF	7.8	0.72	101. Camel Lights	100	11.0	0.79
51. MERIT MENTHOL	KFM	7.9	0.57	102. Kool Milds	100M	11.0	0.82
				103. Lucky Strike (Box)	KF	11.0	0.89

2050081208

BRANDS RANKED ACCORDING TO FTC TAR

BRAND	SIZE	FTC TAR, NICOTINE, MG/CIGT. MG/CIGT.		BRAND	SIZE	FTC TAR, NICOTINE, MG/CIGT. MG/CIGT.	
104. Lucky Strike	100	11.0	0.93	153. Montclair	KFM	15.3	1.11
105. Winston Lights	100	11.1	0.86	154. Kent Men.	100M	15.4	1.33
106. Sterling Special Blend (Box)	100	11.2	0.87	155. Kool	KFM	15.6	1.09
107. MARLBORO LIGHTS	KF	11.3	0.75	156. Salem	100M	15.6	1.15
108. PARLIAMENT LIGHTS	100C	11.3	0.82	157. Winston	KF	15.7	1.11
109. Lark Lights	KFC	11.3	0.84	158. Newport (Box)	LFM	15.8	1.26
Kent (Box)	LF	11.3	0.91	159. B & H MEN. (BOX)	100M	16.1	1.04
110. Eve Slim Lights (Box)	100	11.4	0.92	160. MARLBORO (BOX)	LF	16.1	1.06
111. Sterling Special Blend				161. MARLBORO MEN.	KFM	16.2	1.08
112. Men. (Box)	100M	11.5	0.90	162. ALPINE	KFM	16.3	1.06
113. Eve Slim Lights Men. (Box)	100M	11.5	0.92	163. BENSON & HEDGES	100	16.3	1.07
114. Kent	KF	11.6	0.93	164. MARLBORO	100	16.3	1.08
115. MARLBORO LIGHTS	100	11.7	0.76	165. B & H MEN.	100M	16.3	1.10
116. PLAYERS (BOX)	KF	11.7	0.82	166. Kool (Box)	LFM	16.3	1.16
117. Tareyton	100C	12.0	0.93	167. Winston	100	16.3	1.20
118. PLAYERS MEN. (BOX)	KFM	12.1	0.80	168. Newport	KFM	16.3	1.29
119. B & H MULTIFILTER	KFC	12.1	0.86	169. Old Gold	KF	16.4	1.29
120. Chesterfield	KF	12.1	0.92	170. P.M. INTERNATIONAL MEN. (BOX)	100M	16.6	1.09
121. Tareyton	KFC	12.3	0.95	171. MARLBORO (BOX)	100	16.6	1.09
122. L & M	100	12.4	0.94	172. MARLBORO	KF	16.6	1.10
123. Pall Mall Lights Men.	100M	12.4	1.09	173. Winston International (Box)	93	16.6	1.20
124. L & M	KF	12.6	0.93	174. Pall Mail	KF	16.6	1.28
125. Lark	KFC	12.8	0.92	175. BENSON & HEDGES (BOX)	100	16.9	1.11
126. L & M (Box)	LF	12.8	0.97	176. More Men.	120M	17.0	1.37
127. Lark Lights	100C	13.0	0.97	177. ENGLISH OVALS (BOX)	RNF	17.1	1.32
128. Raleigh	KF	13.1	0.88	178. P.M. INTERNATIONAL (BOX)	100	17.5	1.14
129. Kool	100M	13.2	0.89	179. More	120	17.7	1.30
130. PLAYERS MEN. (BOX)	100M	13.4	0.94	180. Long Johns	120	18.0	1.54
131. St. Moritz	100	13.5	1.10	181. Half & Half	KF	18.1	1.50
132. HI-LITE (BOX)	100	13.6	1.06	182. Chesterfield	RNF	18.2	1.22
133. Kent	100	13.6	1.09	183. Max Men.	120M	18.3	1.56
134. St. Moritz Men.	100M	13.7	1.10	184. Tall Men.	120M	18.4	1.56
135. B & H MULTIFILTER MEN.	KFM	13.8	0.90	185. Max	120	18.5	1.55
136. PLAYERS (BOX)	100	13.8	0.94	186. Newport	100M	19.0	1.48
137. SARATOGA MEN. (BOX)	120M	14.0	0.81	187. Spring	100M	19.2	1.16
138. GALAXY	KFC	14.0	0.98	188. Camel	RNF	19.2	1.39
139. SARATOGA (BOX)	120	14.1	0.99	189. Old Gold	100	19.4	1.67
140. Viceroy	KF	14.2	0.92	190. PHILIP MORRIS	RNF	20.0	1.24
141. VIRGINIA SLIMS	100	14.3	0.97	191. PLAYERS (BOX)	RNF	20.2	1.50
142. Lark	100C	14.3	1.03	192. Tall	120	20.6	1.70
143. Eve Lights (Box)	120	14.4	1.19	193. Kool	RNF	20.8	1.37
144. Winston (Box)	LF	14.7	1.10	194. ENGLISH OVALS (BOX)	KNF	21.1	1.71
145. Salem	KFM	14.9	1.02	195. Chesterfield King	KNF	21.5	1.48
146. Raleigh	100	15.0	1.06	196. Pall Mail	KNF	23.2	1.50
147. Camel	KF	15.0	1.10	197. H. Tareyton	KNF	24.3	1.67
148. Pall Mall	100	15.0	1.18	198. Lucky Strike	RNF	24.7	1.62
149. Eve Lights Men. (Box)	120M	15.0	1.22	199. Raleigh	KNF	24.8	1.55
150. BENSON & HEDGES (BOX)	KF	15.1	1.20	200. P.M. COMMANDER	KNF	25.2	1.56
151. Viceroy	100	15.2	1.09	201. Old Gold	KNF	25.2	.78
152. VIRGINIA SLIMS MEN.	100M	15.3	0.98	202. Bull Durham	KF	28.5	.10

PLAIN

2050081209

ULTRA LOW TAR FILTER CIGARETTES (BOX)(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

this is
FTC-NO

CB4	JRCB	NO4B	BY4B
Cambridge (Box)	Carlton (Box)	Now (Box)	Barclay* (Box)

1 Sales

----	----	----	0.14
------	------	------	------

Smoke

FTC Tar, mg/cig.	0.00	0.00	0.00	1.4
Nicotine, mg/cig.	0.00	0.00	0.00	* 0.14
Puffs/cig.	8.1	7.1	6.9	* 8.0
Filtration Eff., %	-	-	-	76
Filler Rod TPM, mg/cig.	-	-	-	32.9
CO, mg/cig.	<0.4	<0.4	<0.4	* 1.2
NO, mg/cig.	0.01	0.01	0.01	0.04

Cigarette

Total RTD, mm of H ₂ O	130	124	102	26
Static Burn. Time, min.	6.8	6.0	6.2	7.6
Length, mm	82.9	82.7	79.2	79.8
Circumference, mm	24.9	24.8	24.9	25.0

PaperComponents

Type	Cit.	Cit.	Cit.	Cit.
Percent	0.4	0.8	0.8	0.7
Porosity, sec.	12	7**	16	14

Filter

Type	CA	CA	CA	CA
Inner	----	----	----	----
Outer	----	----	----	----
RTD, mm of H ₂ O	279	278	175	105
Length, mm	31.6	32.0	27.6	27.0
Weight, g	0.28	0.26	0.19	0.18
Fiber denier/shape	2.0/Y	1.9/Y	1.8/Y	2.4/Y
Inner	----	----	----	----
Outer	----	----	----	----
Tipping Paper				
Length, mm	36	36	32	32
Color	White	White	White	Cork
Ventilation, %	97	98	95	82

Filler

Total alkaloids, % (DWB)	2.23	2.16	2.95	(1.85)
Total red. sugars, % (DWB)	6.1	7.2	7.2	(8.3)
Reconstituted Tob., %	16	17	None	(19)
Expanded Stems, %	None	None	None	(5)
Expanded Tob., %	30	51	93	(10)
Wt. of tob., g (Corrected to 12.5% O.V.)	0.513	0.470	0.431	(0.628)
Rod Length, mm	51.3	50.7	51.6	52.8
Rod Density, g/cc	0.204	0.189	0.169	(0.240)

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

**These cigarette papers are mechanically perforated.

2050081210

ULTRA LOW TAR 85 MM FILTER CIGARETTES(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	<u>CB6</u> Cambridge	<u>N6</u> Now	<u>CR6</u> Carlton	<u>KT6</u> Kent III
¹ Sales	0.04	0.22	0.62	0.64
<u>Smoke</u>				
FTC Tar, mg/cig.t.	1.5	1.5	1.7	3.7
Nicotine, mg/cig.t.	0.16	0.18	0.18	0.39
Puffs/cig.t.	8.0	7.1	6.4	7.1
Filtration Eff., %	73	77	74	64
Filler Rod TPM, mg/cig.t.	27.2	27.4	24.0	29.6
CO, mg/cig.t.	1.6	2.3	2.5	3.0
NO, mg/cig.t.	0.04	0.00	0.00	0.00
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	106	113	122	97
Static Burn. Time, min.	6.6	6.0	5.7	6.4
Length, mm	83.7	83.7	82.5	84.0
Circumference, mm	24.8	24.9	24.8	25.0
<u>Paper</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.6	0.4	0.9	1.5
Porosity, sec.	14	16	13	22
<u>Filter</u>				
Type	CA	CA	CA	----
Inner	----	----	----	CA
Outer	----	----	----	CA
RTD, mm of H ₂ O	154	165	161	114
Length, mm	27.1	26.9	24.9	24.9
Weight, g	0.20	0.19	0.18	0.16
Fiber denier/shape	2.4/Y	2.1/Y	2.0/Y	----
Inner	----	----	----	1.8/Y
Outer	----	----	----	2.9/Y
Tipping Paper				
Length, mm	32	31	30	32
Color	White	White	White	White
Ventilation, %	77	75	70	60
<u>Filler</u>				
Total alkaloids, % (DWB)	2.20	2.35	2.21	2.40
Total red. sugars, % (DWB)	6.6	6.8	7.7	9.4
Reconstituted Tob., %	16	15	17	15
Expanded Stems, %	None	None	None	None
Expanded Tob., %	30	52	51	25
Wt. of tob., g (Corrected to 12.5% O.V.)	0.572	0.508	0.518	0.587
Rod Length, mm	56.6	56.8	57.6	59.1
Rod Density, g/cc	0.204	0.179	0.182	0.199

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

ULTRA LOW TAR 85 MM FILTER CIGARETTES

(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

¹Sales

Smoke

	MUL	TR6	WUL
Merit Ultra Lights			Winston Ultra Lights
	0.70	0.69	0.27
FTC Tar, mg/cig.t.	4.0	5.4	5.6
Nicotine, mg/cig.t.	0.36	0.48	0.49
Puffs/cig.t.	7.9	8.2	7.0
Filtration Eff., %	64	53	62
Filler Rod TPM, mg/cig.t.	27.8	29.4	28.3
CO, mg/cig.t.	4.1	3.9	6.9
NO, mg/cig.t.	0.12	0.11	0.10

Cigarette

Total RTD, mm of H ₂ O	104	47	114
Static Burn. Time, min.	6.7	6.6	6.0
Length, mm	83.8	83.9	83.6
Circumference, mm	24.9	25.0	24.9

Paper

Components

Type	Cit.	Cit.	Cit.
Percent	1.9	0.6	1.6
Porosity, sec.	13	18	21

Filter

Type	CA	---	CA
Inner	---	CA	---
Outer	---	PL	---
RTD, mm of H ₂ O	131	99	128
Length, mm	27.0	25.0	27.0
Weight, g	0.19	0.18	0.19
Fiber denier/shape	2.8/Y	---	2.7/Y
Inner	---	1.8/Y	---
Outer	---	---	---
Tipping Paper			
Length, mm	32	30	31
Color	Cork	White	Cork
Ventilation, %	60	66	50

Filler

Total alkaloids, % (DWB)	1.98	2.15	2.04
Total red. sugars, % (DWB)	6.4	7.1	7.4
Reconstituted Tob., %	21	20	24
Expanded Stems, %	None	None	None
Expanded Tob., %	20	12	24
Wt. of tob., g (Corrected to 12.5% O.V.)	0.628	0.657	0.598
Rod Length, mm	56.8	58.9	56.6
Rod Density, g/cc	0.222	0.223	0.213

2050081212

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

ULTRA LOW TAR 85 MM FILTER CIGARETTES(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

VUL
Vantage
Ultra Lights

0.44

6.0

0.50

7.3

63

30.0

6.9

0.18

BY6
Barclay

0.50

* 1.1

* 0.12

* 8.9

86

33.1

* 0.6

0.01

1 Sales

Smoke

FTC Tar, mg/cig.

Nicotine, mg/cig.

Puffs/cig.

Filtration Eff., %

Filler Rod TPM, mg/cig.

CO, mg/cig.

NO, mg/cig.

114

20

6.4

7.2

83.6

83.9

24.9

25.0

Cit.

Cit.

1.4

0.8

22

14

CA

CA

130

81

27.0

27.0

0.19

0.17

2.6/Y

2.4/Y

31

32

White

Cork

49

85

2.01

(1.92)

7.5

8.8

22

(19)

None

(5)

25

(10)

0.608

(0.678)

56.6

56.9

0.215

(0.240)

CigaretteTotal RTD, mm of H₂O

Static Burn. Time, min.

Length, mm

Circumference, mm

Paper

Components

Type

Percent

Porosity, sec.

Filter

Type

Inner

Outer

RTD, mm of H₂O

Length, mm

Weight, g

Fiber denier/shape

Inner

Outer

Tipping Paper

Length, mm

Color

Ventilation, %

Filler

Total alkaloids, % (DWB)

Total red. sugars, % (DWB)

Reconstituted Tob., %

Expanded Stems, %

Expanded Tob., %

Wt. of tob., g (Corrected

to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

2050081213

LOW TAR 85 MM FILTER CIGARETTES(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

KGL
Kent
Golden
LightsVEL
VantageMEL
MeritME60
Merit
(Box)¹Sales

0.68

2.38

2.39

Smoke

FTC Tar, mg/cig.t.	7.8	8.2	8.3	8.4
Nicotine, mg/cig.t.	0.72	0.65	0.59	0.62
Puffs/cig.t.	7.4	8.1	8.4	8.2
Filtration Eff., %	52	61	62	62
Filler Rod TPM, mg/cig.t.	28.6	30.5	29.2	32.4
CO, mg/cig.t.	8.5	11.6	9.7	11.3
NO, mg/cig.t.	0.16	0.24	0.25	0.23

Cigarette

Total RTD, mm of H ₂ O	100	103	139	138
Static Burn. Time, min.	6.9	7.4	8.2	8.6
Length, mm	83.6	83.8	83.8	83.0
Circumference, mm	24.8	25.0	24.9	24.8

PaperComponents

Type	Cit.	Cit.	Cit.	Cit.
Percent	1.6	0.9	0.6	0.5
Porosity, sec.	23	14	16	16

Filter

Type	CA	CA	CA	CA
RTD, mm of H ₂ O	84	88	125	126
Length, mm	25.0	25.0	27.0	27.0
Weight, g	0.15	0.28	0.18	0.18
Fiber denier/shape	3.1/Y	1.6/R	2.7/Y	2.5/Y
Tipping Paper				
Length, mm	32	30	32	32
Color	White	Cork	Cork	Cork
Ventilation, %	40	26	29	29

Filler

Total alkaloids, % (DWB)	2.04	1.89	1.85	1.89
Total red. sugars, % (DWB)	10.3	8.6	8.7	6.2
Reconstituted Tob., %	19	22	21	21
Expanded Stems, %	None	None	2	2
Expanded Tob., %	12	16	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.663	0.693	0.682	0.672
Rod Length, mm	58.6	58.8	56.8	56.0
Rod Density, g/cc	0.230	0.238	0.245	0.244

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

2050081214

LOW TAR 85 MM FILTER CIGARETTES(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

CL6Camel
LightsPR6Parliament
LightsRG6Raleigh
LightsVL6Viceroy
Rich
Lights

1.51

0.39

0.18

0.12

¹Sales

8.8

9.3

10.0

10.1

Smoke

FTC Tar, mg/cig.

0.69

0.68

0.77

0.81

Nicotine, mg/cig.

8.2

7.9

7.2

7.8

Puffs/cig.

61

56

48

50

Filtration Eff., %

30.8

31.2

27.5

29.2

Filler Rod TPM, mg/cig.

11.6

10.6

10.7

10.5

CO, mg/cig.

~~0.26~~~~0.21~~~~0.26~~~~0.26~~~~NO, mg/cig.~~

132

121

107

110

CigaretteTotal RTD, mm of H₂O

7.6

7.2

6.8

7.3

Static Burn. Time, min.

84.0

83.9

83.7

83.6

Length, mm

24.9

25.0

25.1

25.0

Circumference, mm

Cit.

Cit.

Cit.

Cit.

Paper
Components

1.6

1.8

0.8

0.2

Type

20

14

16

13

Percent

CA

CA

CA

CA

Filter

118

114

71

77

Type

27.0

25.0²

24.9

24.9

RTD, mm of H₂O

0.18

0.14

0.15

0.14

Length, mm

2.4/Y

2.5/Y

3.6/Y

2.7/Y

Weight, g

31

30

30

30

Fiber denier/shape

Cork

White

Cork

Cork

Tipping Paper

29

34

23

24

Length, mm

Color

Ventilation, %

1.82

1.80

2.05

2.00

Filler

8.5

7.3

8.2

8.4

Total alkaloids, % (DWB)

24

21

11

11

Total red. sugars, % (DWB)

None

2

11

11

Reconstituted Tob., %

16

12

11

11

Expanded Stems, %

0.690

0.707

0.682

0.692

Expanded Tob., %

57.0

58.9

58.8

58.7

Wt. of tob., g (Corrected

0.246

0.241

0.231

0.234

to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

²The reported value includes the recessed portion.

205008125

LOW TAR 85 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	WL6 Winston Lights	LUG Lucky Strike	ML6B Marlboro Lights (Box)	LUG B Lucky Strike (Box)
¹ Sales	3.17	0.15	2.10	---
<u>Smoke</u>				
FTC Tar, mg/cig.	10.2	10.4	11.0	11.0
Nicotine, mg/cig.	0.77	0.84	0.74	0.89
Puffs/cig.	8.3	7.8	8.2	8.0
Filtration Eff., %	58	50	55	52
Filler Rod TPM, mg/cig.	30.9	30.8	31.6	31.0
CO, mg/cig.	12.5	11.2	11.9	11.2
NO, mg/cig.	0.29	0.26	0.24	0.27
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	138	110	127	111
Static Burn. Time, min.	7.7	7.5	8.4	7.7
Length, mm	83.9	82.6	82.9	83.0
Circumference, mm	24.9	25.0	24.9	24.9
<u>Paper</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.4	0.7	0.5	0.6
Porosity, sec.	22	18	20	23
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	112	80	100	80
Length, mm	27.0	24.6	27.0	25.1
Weight, g	0.18	0.15	0.16	0.15
Fiber denier/shape	2.8/Y	2.8/Y	3.0/Y	2.8/Y
Tipping Paper				
Length, mm	31	30	31	30
Color	Cork	Cork	White	Cork
Ventilation, %	22	24	20	23
<u>Filler</u>				
Total alkaloids, % (DWB)	1.72	2.00	1.84	2.05
Total red. sugars, % (DWB)	8.3	10.0	7.2	9.2
Reconstituted Tob., %	24	16	21	16
Expanded Stems, %	None	4	2	4
Expanded Tob., %	15	14	12	14
Wt. of tob., g (Corrected to 12.5% O.V.)	0.686	0.676	0.674	0.688
Rod Length, mm	56.9	58.0	55.9	57.9
Rod Density, g/cc	0.243	0.236	0.245	0.242

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

2050881216

LOW TAR 85 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands/ ranked according to FTC Tar, left to right)

ML6
Marlboro
LightsPA6B
Players
(Box)KN/
KentLM6
L & M

1 Sales

4.61

0.21

1.22

0.62

11.3
0.75
8.4
55
32.6
11.8
0.2111.7
0.82
8.1
50
31.2
11.8
0.2311.6
0.93
8.6
46
28.6
11.8
0.2412.6
0.93
7.6
46
27.4
12.1
0.24

Smoke
 FTC Tar, mg/cig.
 Nicotine, mg/cig.
 Puffs/cig.
 Filtration Eff., %
 Filler Rod TPM, mg/cig.
 CO, mg/cig.
 NO, mg/cig.

130
8.1
83.9
24.9105
8.0
82.9
25.092
7.0
84.1
25.1115
7.2
84.4
24.7

Cigarette
 Total RTD, mm of H₂O
 Static Burn. Time, min.
 Length, mm
 Circumference, mm

Cit.
0.5
18Cit.
0.6
18Cit.
0.6
20Cit.
1.4
7*

Paper
 Components
 Type
 Percent
 Porosity, sec.

CA
102
27.0
0.16
3.0/YCA
78
27.1
0.17
4.0/YCA
65
21.0
0.12
3.0/YCA
67
24.8
0.15
3.7/Y

Filter
 Type
 RTD, mm of H₂O
 Length, mm
 Weight, g
 Fiber denier/shape
 Tipping Paper
 Length, mm
 Color
 Ventilation, %

31
White
2032
Cork
2625
White
3230
White

Filler
 Total alkaloids, % (DWB)
 Total red. sugars, % (DWB)
 Reconstituted Tob., %
 Expanded Stems, %
 Expanded Tob., %
 Wt. of tob., g (Corrected
 to 12.5% O.V.)
 Rod Length, mm
 Rod Density, g/cc

1.82
7.8
21
2
12
0.686
56.9
0.2461.87
7.5
21
2
12
0.683
55.8
0.2481.81
9.6
19
None
12
0.724
63.1
0.2301.90
10.4
14
7
19
0.650
59.6
0.223

*These cigarette papers are mechanically perforated.

2050081217

LOW TAR 85 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	<u>RL6</u> Raleigh	<u>VC6</u> Viceroy	<u>CM6</u> Camel
¹ Sales	0.79	1.02	1.69
<u>Smoke</u>			
FTC Tar, mg/cig.t.	(13.1)	(14.2)	15.0
Nicotine, mg/cig.t.	(0.88)	(0.92)	1.10
Puffs/cig.t.	(7.4)	(7.4)	8.8
Filtration Eff., %	46	48	46
Filler Rod TPM, mg/cig.t.	28.6	28.9	31.4
CO, mg/cig.t.	(13.8)	(14.2)	14.5
NO, mg/cig.t.	(0.29)	(0.30)	0.32
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	116	115	109
Static Burn. Time, min.	6.8	7.0	7.6
Length, mm	83.8	83.7	83.9
Circumference, mm	25.1	25.0	25.0
<u>Paper</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	0.3	0.4	0.8
Porosity, sec.	(12)	(12)	16
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	64	58	68
Length, mm	21.0	20.9	20.9
Weight, g	0.12	0.12	0.13
Fiber denier/shape	2.8/Y	3.9/Y	3.0/Y
Tipping Paper			
Length, mm	26	26	25
Color	Cork	Cork	Cork
Ventilation, %	----	----	13
<u>Filler</u>			
Total alkaloids, % (DWB)	1.91	1.86	1.82
Total red. sugars, % (DWB)	8.3	8.4	8.0
Reconstituted Tob., %	11	11	24
Expanded Stems, %	11	11	None
Expanded Tob., %	4	11	16
Wt. of tob., g (Corrected to 12.5% O.V.)	0.724	0.711	0.756
Rod Length, mm	62.8	62.8	63.0
Rod Density, g/cc	0.230	0.227	0.244

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -
Maxwell Report - October, 1984.

20500881218

FULL FLAVORED 85 MM FILTER CIGARETTES

15

(16 MG TAR OR MORE)

(Brands ranked according to FTC Tar, left to right)

	WN6 Winston	OG6 Old Gold	MR6 Marlboro
¹ Sales	8.06	0.27	8.61
<u>Smoke</u>			
FTC Tar, mg/cig.	15.7	16.4	16.6
Nicotine, mg/cig.	1.11	1.29	1.10
Puffs/cig.	9.4	8.3	9.2
Filtration Eff., %	48	46	46
Filler Rod TPM, mg/cig.	31.9	33.6	32.0
CO, mg/cig.	15.1	17.0	15.4
NO, mg/cig.	0.31	0.30	0.29
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	125	119	120
Static Burn. Time, min.	8.1	7.5	7.8
Length, mm	83.9	84.2	83.8
Circumference, mm	24.9	25.1	24.9
<u>Paper</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	0.4	0.8	0.5
Porosity, sec.	20	35	17
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	79	64	71
Length, mm	21.0	21.1	21.0
Weight, g	0.14	0.12	0.13
Fiber denier/shape	3.6/Y	2.9/Y	3.2/Y
Tipping Paper			
Length, mm	25	26	25
Color	Cork	Cork	Cork
Ventilation, %	15	----	10
<u>Filler</u>			
Total alkaloids, % (DWB)	1.78	2.18	1.88
Total red. sugars, % (DWB)	8.2	9.4	7.6
Reconstituted Tob., %	24	19	21
Expanded Stems, %	None	None	2
Expanded Tob., %	15	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.774	0.727	0.756
Rod Length, mm	62.9	63.1	62.8
Rod Density, g/cc	0.249	0.230	0.245

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -
Maxwell Report - October, 1984.

85mm
MENTHOL

2050081219

ULTRA LOW TAR 85 MM FILTER MENTHOL CIGARETTES

(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

¹Sales

Smoke

	CR6M Carlton	NO6M Now	MU6M Merit Ultra Lights	VU6M Vantage Ultra Lights
FTC Tar, mg/cig.t.	0.24	0.10	0.19	0.04
Nicotine, mg/cig.t.	1.0	1.6	3.9	5.1
Puffs/cig.t.	0.12	0.18	0.32	0.44
Filtration Eff., %	6.6	7.1	7.6	7.7
Filler Rod TPM, mg/cig.t.	78	74	63	62
CO, mg/cig.t.	25.0	26.8	28.6	29.2
CO ₂ , mg/cig.t.	1.3	2.2	3.7	5.9
NO _x mg/cig.t.	0.05	0.08	0.11	0.16

Cigarette

Total RTD, mm of H ₂ O	109	112	100	112
Static Burn. Time, min.	5.0	5.9	6.4	6.5
Length, mm	82.5	83.7	83.7	83.9
Circumference, mm	24.9	24.9	25.0	25.0

Paper

Components

Type	Cit.	Cit.	Cit.	Cit.
Percent	0.8	0.5	1.8	1.4
Porosity, sec.	14	14	14	21

Filter

Type	CA	CA	CA	CA
Inner	----	----	----	----
Outer	----	----	----	----
RTD, mm of H ₂ O	158	166	124	130
Length, mm	25.0	27.0	27.1	27.0
Weight, g	0.18	0.19	0.19	0.20
Fiber denier/shape	1.8/Y	1.9/Y	2.8/Y	2.4/Y
Inner	----	----	----	----
Outer	----	----	----	----

Tipping Paper

Length, mm	30	31	32	31
Color	White	White	Cork	White
Ventilation, %	77	73	62	56

Filler

Total alkaloids, % (DWB)	2.09	2.22	1.91	1.84
Total red. sugars, % (DWB)	7.4	6.3	6.2	8.0
Reconstituted Tob., %	17	15	21	22
Expanded Stems, %	None	None	None	None
Expanded Tob., %	51	52	20	29
Wt. of tob., g (Corrected to 12.5% O.V.)	0.511	0.508	0.636	0.621
Rod Length, mm	57.5	56.7	56.6	56.9
Rod Density, g/cc	0.180	0.180	0.225	0.219

Menthol, mg/cig.t.

Smoke	0.14	0.25	0.34	0.28
Filler	4.8	4.6	2.9	2.5
Filter	2.3	4.0	2.2	1.6
² Menthol, μ g/puff.	20	35	44	36

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081220

ULTRA LOW TAR 85 MM FILTER MENTHOL CIGARETTES(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

SU6M
Salem
Ultra
LightsTU6M
TrueBY6M
Barclay*KU6M
Kool
Ultra*

0.29	0.33	0.08	0.16
5.3	5.3	* 1.1	* 2.2
0.46	0.51	* 0.12	* 0.23
7.4	8.2	* 7.9	* 7.8
64	50	74	62
28.4	29.8	27.2	27.2
7.0	4.7	* 0.7	* 1.8
<u>0.20</u>	<u>0.13</u>	<u>* 0.03</u>	<u>* 0.36</u>

121	49	28	30
6.6	6.6	6.6	6.4
83.8	84.5	84.0	83.8
24.9	25.0	25.0	25.0

Cit.	Cit.	Cit.	Cit.
1.7	0.8	0.4	0.9
21	19	9	14

CA	----	CA	CA
----	CA	----	----
----	PL	----	----
135	99	94	74
27.0	25.0	27.1	27.0
0.19	0.18	0.16	0.15
2.6/Y	----	2.3/Y	4.0/Y
----	1.8/Y	----	----
----	----	----	----

31	30	32	32
White	White	Cork	Cork
51	63	82	75

1.88	2.11	2.06	2.28
6.6	7.1	7.4	7.3
24	20	7	9
None	None	9	9
28	12	25	21

0.602	0.662	0.594	0.601
56.8	59.5	56.9	56.8
0.215	0.222	0.210	0.213

0.36	0.26	0.08	0.14
3.0	2.3	2.4	2.4
1.3	0.9	1.6	1.5
47	31	10	18

1Sales

Smoke

FTC Tar, mg/cig.

Nicotine, mg/cig.

Puffs/cig.

Filtration Eff., %

Filler Rod TPM, mg/cig.

CO, mg/cig.

NO, mg/cig.

Cigarette

Total RTD, mm of H₂O

Static Burn. Time, min.

Length, mm

Circumference, mm

Paper

Components

Type

Percent

Porosity, sec.

Filter

Type

Inner

Outer

RTD, mm of H₂O

Length, mm

Weight, g

Fiber denier/shape

Inner

Outer

Tipping Paper

Length, mm

Color

Ventilation, %

Filler

Total alkaloids, % (DWB)

Total red. sugars, % (DWB)

Reconstituted Tob., %

Expanded Stems, %

Expanded Tob., %

Wt. of tob., g (Corrected to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

Menthol, mg/cig.

Smoke

Filler

Filter

2Menthol, μ g/puff

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

LOW TAR 85 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

1 Sales

	BT6M Bright	NG6M Newport Lights	ME6M Merit	VE6M Vantage	KG6M Kent Golden Lights
--	----------------	---------------------------	---------------	-----------------	----------------------------------

FTC Tar, mg/cig.t.	6.5	7.4	7.9	(7.9)	(8.0)
Nicotine, mg/cig.t.	0.54	0.68	0.57	(0.70)	(0.73)
Puffs/cig.t.	7.4	7.3	8.0	(8.0)	(7.4)
Filtration Eff., %	59	52	62	(54)	50
Filler Rod TPM, mg/cig.t.	31.0	29.8	30.1	30.2	28.8
CO, mg/cig.t.	8.0	7.3	10.2	(8.8)	(7.4)
NO, mg/cig.t.	0.22	0.15	0.22	(0.23)	(0.14)

Cigarette

Total RTD, mm of H ₂ O	125	94	133	109	92
Static Burn. Time, min.	6.8	6.6	8.0	6.9	6.6
Length, mm	83.7	83.8	83.8	83.7	84.0
Circumference, mm	24.9	25.0	24.9	25.0	25.0

PaperComponents

Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.9	1.8	0.6	(1.4)	1.6
Porosity, sec.	16	22	15	(20)	20

Filter

Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	119	82	122	108	77
Length, mm	27.0	25.1	27.2	25.1	25.0
Weight, g	0.18	0.15	0.18	0.29	0.14
Fiber denier/shape	2.5/Y	2.9/Y	2.6/Y	(3.3/Y)	3.1/Y
Tipping Paper					
Length, mm	32	32	32	30	32
Color	White	Cork	Cork	Cork	White
Ventilation, %	39	42	30	(40)	(43)

Filler

Total alkaloids, % (DWB)	1.87	2.06	1.75	1.81	2.10
Total red. sugars, % (DWB)	6.5	9.6	6.0	8.5	8.0
Reconstituted Tob., %	22	21	21	22	19
Expanded Stems, %	None	None	2	None	None
Expanded Tob., %	30	12	12	16	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.613	0.670	0.680	0.696	0.661
Rod Length, mm	56.7	58.7	56.6	58.6	59.0
Rod Density, g/cc	0.219	0.228	0.245	0.239	0.226

Menthol, mg/cig.t.

Smoke	0.46	0.31	0.54	(0.30)	0.34
Filler	2.8	2.1	3.0	(2.3)	2.0
Filter	1.8	0.9	1.6	1.2	1.3

2 Menthol, μ g/puff 62 41 67 (37) 46

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081222

LOW TAR 85 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

KI6MKool
LightsSG6MSalem
LightsBA6MBelairKM6MKool
Milds

0.27

2.92

0.62

1.30

8.6

9.7

10.0

10.7

0.69

0.74

0.77

0.82

7.6

7.7

7.2

7.2

56

58

50

51

28.8

29.6

29.4

29.2

10.0

12.3

9.7

10.8

~~0.23~~~~0.26~~~~0.23~~~~0.26~~1 SalesSmoke

FTC Tar, mg/cig.

Nicotine, mg/cig.

Puffs/cig.

Filtration Eff., %

Filler Rod TPM, mg/cig.

CO, mg/cig.

NO, mg/cig.

CigaretteTotal RTD, mm of H₂O

Static Burn. Time, min.

Length, mm

Circumference, mm

PaperComponents

Type

Percent

Porosity, sec.

Filter

Type

RTD, mm of H₂O

Length, mm

Weight, g

Fiber denier/shape

Tipping Paper

Length, mm

Color

Ventilation, %

Filler

Total alkaloids, % (DWB)

Total red. sugars, % (DWB)

Reconstituted Tob., %

Expanded Stems, %

Expanded Tob., %

Wt. of tob., g (Corrected to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

Menthol, mg/cig.

Smoke

Filler

Filter

2 Menthol, μ g/puff

LOW TAR 85 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	PA6MB	PM6M B & H	Multifilter Menthол	SL6M Salem	KLUM Kool
1 Sales	0.12	0.01	3.25	5.83	
Smoke					
FTC Tar, mg/cig.t.	12.1	13.8	14.9	15.6	
Nicotine, mg/cig.t.	0.80	0.90	1.02	1.09	
Puffs/cig.t.	8.2	8.5	8.0	7.3	
Filtration Eff., %	50	45	48	41	
Filler Rod TPM, mg/cig.t.	32.6	32.8	31.9	29.6	
CO, mg/cig.t.	11.6	12.4	17.1	14.0	
NO, mg/cig.t.	0.23	0.22	0.37	0.30	
Cigarette					
Total RTD, mm of H ₂ O	106	96	133	106	
Static Burn. Time, min.	8.1	7.0	7.4	6.8	
Length, mm	83.0	84.0	83.6	83.8	
Circumference, mm	25.0	25.1	25.0	25.0	
Paper					
Components					
Type	Cit.	Cit.	Cit.	Cit.	
Percent	0.7	0.9	1.6	0.2	
Porosity, sec.	16	13	22	14	
Filter					
Type	CA	---	CA	CA	
Inner	---	C-CA	---	---	
Outer	---	CA-PL	---	---	
RTD, mm of H ₂ O	78	70	78	53	
Length, mm	27.1	25.0	21.0	21.0	
Weight, g	0.17	0.34	0.13	0.12	
Fiber denier/shape	4.0/Y	---	2.7/Y	3.1/Y	
Inner	---	3.3/I	---	---	
Outer	---	3.1/Y	---	---	
Tipping Paper					
Length, mm	32	30	25	26	
Color	Cork	White	White	Cork	
Ventilation, %	24	19	---	---	
Filler					
Total alkaloids, % (DWB)	1.79	1.82	1.80	2.04	
Total red. sugars, % (DWB)	7.2	6.6	8.8	7.8	
Reconstituted Tob., %	21	21	24	12	
Expanded Stems, %	2	2	None	12	
Expanded Tob., %	12	12	16	11	
Wt. of tob., g (Corrected to 12.5% O.V.)	0.691	0.722	0.748	0.705	
Rod Length, mm	55.9	59.0	62.6	62.8	
Rod Density, g/cc	0.247	0.245	0.238	0.224	
Menthол, mg/cig.t.					
Smoke	0.56	0.56	0.60	0.44	
Filler	2.4	2.6	2.5	1.7	
Filter	1.3	1.1	0.8	0.6	
2 Menthол, µg/puff	69	66	75	59	

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081224

FULL FLAVORED 85 MM FILTER MENTHOL CIGARETTES

(16 MG TAR OR MORE)

(Brands ranked according to FTC Tar, left to right)

	MR6M Marlboro	AL6M Alpine	NW6M Newport
¹ Sales	0.35	0.06	2.13
<u>Smoke</u>			
FTC Tar, mg/cig.t.	16.2	16.3	16.3
Nicotine, mg/cig.t.	1.08	1.06	1.29
Puffs/cig.t.	9.1	9.0	8.2
Filtration Eff., %	46	46	46
Filler Rod TPM, mg/cig.t.	33.2	33.0	32.6
CO, mg/cig.t.	14.8	14.2	17.6
NO, mg/cig.t.	0.28	0.26	0.30
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	116	120	118
Static Burn. Time, min.	8.0	7.8	7.6
Length, mm	84.0	83.8	84.1
Circumference, mm	24.9	24.8	25.1
<u>Paper</u>			
<u>Components</u>			
Type	Cit.	Cit.	Cit.
Percent	0.6	0.6	0.6
Porosity, sec.	18	19	29
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	70	70	64
Length, mm	21.0	21.1	21.2
Weight, g	0.12	0.12	0.12
Fiber denier/shape	3.2/Y	3.2/Y	3.0/Y
<u>Tipping Paper</u>			
Length, mm	25	26	25
Color	Cork	White	Cork
Ventilation, %	11	11	----
<u>Filler</u>			
Total alkaloids, % (DWB)	1.75	1.78	2.18
Total red. sugars, % (DWB)	6.6	6.2	9.6
Reconstituted Tob., %	21	21	21
Expanded Stems, %	2	2	None
Expanded Tob., %	12	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.749	0.757	0.720
Rod Length, mm	63.0	62.7	62.9
Rod Density, g/cc	0.244	0.246	0.230
<u>Menthol, mg/cig.t.</u>			
Smoke	0.60	0.60	0.49
Filler	2.1	2.1	1.7
Filter	0.8	0.9	0.6
² Menthol, μ g/puff	66	67	60

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081225

ULTRA LOW TAR 100 MM FILTER CIGARETTES

(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	CR80 Carlton (Box)	NO8 Now	MU8 Merit Ultra Lights	CR8 Carlton	KTS Kent III
1 Sales	0.26	0.49	0.51	0.80	0.70

Smoke

FTC Tar, mg/cig.	0.9	3.6	4.9	5.4	5.4
Nicotine, mg/cig.	0.12	0.34	0.40	0.45	0.56
Puffs/cig.	8.1	8.2	9.9	8.1	8.3
Filtration Eff., %	71	66	67	58	67
Filler Rod TPM, mg/cig.	22.7	27.2	27.5	24.4	28.1
CO, mg/cig.	0.9	4.2	5.3	6.6	6.0
NO, mg/cig.	0.03	0.12	0.15	0.18	0.12

Cigarette

Total RTD, mm of H ₂ O	85	104	112	129	117
Static Burn. Time, min.	5.0	6.0	7.0	5.2	5.8
Length, mm	98.7	98.8	99.2	99.5	98.4
Circumference, mm	24.4	24.9	24.8	24.4	24.9

Paper

Components	Cit.	Cit.	Cit.	Cit.	Cit.
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.8	1.6	0.6	0.7	1.7
Porosity, sec.	13	22	16	22	20

Filter

Type	CA	CA	CA	CA	---
Inner	---	---	---	---	CA
Outer	---	---	---	---	CA
RTD, mm of H ₂ O	127	134	139	127	132
Length, mm	27.2	31.0	31.6	27.1	27.0
Weight, g	0.19	0.20	0.21	0.19	0.16
Fiber denier/shape	3.2/I	2.5/Y	2.8/Y	3.4/I	---
Inner	---	---	---	---	1.8/Y
Outer	---	---	---	---	3.0/Y
Tipping Paper					
Length, mm	35	35	36	32	35
Color	White	White	Cork	White	White
Ventilation, %	82	66	58	52	52

Filler

Total alkaloids, % (DWB)	2.14	2.30	1.96	2.16	2.29
Total red. sugars, % (DWB)	8.1	6.8	6.6	8.4	10.0
Reconstituted Tob., %	17	15	21	17	15
Expanded Stems, %	None	None	None	None	None
Expanded Tob., %	51	52	20	51	25
Wt. of tob., g (Corrected to 12.5% O.V.)	0.623	0.625	0.732	0.634	0.707
Rod Length, mm	71.5	67.8	67.6	72.4	71.4
Rod Density, g/cc	0.183	0.184	0.219	0.185	0.199

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

2050081226

ULTRA LOW TAR 100 MM FILTER CIGARETTES

(6 MG TAR OR LESS)

VU8

Vantage
Ultra
Lights

(Brands ranked according to FTC Tar, left to right)

CB8 WU8 BU8 BY8

Cambridge Winston Benson & Hedges DeLuxe Ultra Lights (Box) Barclay*

0.61

0.10

0.49

0.97

0.33

1 Sales

5.5	5.5	5.9	6.4	* 2.8	Smoke
0.47	0.50	0.48	0.48	* 0.26	FTC Tar, mg/cig.
9.0	9.4	9.0	9.6	* 9.2	Nicotine, mg/cig.
66	67	67	60	57	Puffs/cig.
28.5	28.6	28.0	27.6	26.9	Filtration Eff., %
7.3	6.4	8.0	4.9	* 1.5	Filler Rod TPM, mg/cig.
0.00	0.15	0.20	0.13	*	CO, mg/cig.
					NO, mg/cig.

124

124

132

109

28

Cigarette

Total RTD, mm of H₂O

6.6

6.5

6.4

7.0

6.2

Static Burn. Time, min.

98.8

99.1

98.8

98.3

98.9

Length, mm

24.9

24.8

24.9

24.0

24.8

Circumference, mm

Cit.

(0.5)

Cit.

Cit.

Cit.

1.2

21

20

14

9

Paper Components

Type

Percent

Porosity, sec.

CA

CA

CA

CA

CA

147

143

153

124

64

RTD, mm of H₂O

30.9

31.6

31.0

31.5

27.1

Length, mm

0.22

0.21

0.22

0.18

0.15

Weight, g

2.3/Y

2.9/Y

2.5/Y

2.8/Y

3.7/Y

Fiber denier/shape

35

36

35

36

36

White

White

Cork

White

Cork

54

52

48

54

77

Inner

Outer

Tipping Paper

1.95

2.20

1.75

1.88

1.94

8.4

6.5

8.0

7.1

8.7

22

16

24

21

7

None

None

None

2

9

25

30

24

19

25

0.732

0.674

0.728

0.712

0.748

67.9

67.5

67.8

66.8

71.8

0.218

0.205

0.217

0.235

0.211

Filler

Total alkaloids, % (DWB)

Total red. sugars, % (DWB)

Reconstituted Tob., %

Expanded Stems, %

Expanded Tob., %

Wt. of tob., g (Corrected to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

2050081227

LOW TAR 100 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	TU8 True	KG8 Kent Golden Lights	VE8 Vantage	RG8 Raleigh Lights	PT8 Pall Mall Lights
1 Sales	0.53	0.62	1.17	0.19	0.05

Smoke

FTC Tar, mg/cig.t.	8.0	8.9	9.3	9.8	9.9
Nicotine, mg/cig.t.	0.75	0.80	0.73	0.76	0.78
Puffs/cig.t.	9.6	8.9	9.8	9.0	9.1
Filtration Eff., %	51	52	56	52	55
Filler Rod TPM, mg/cig.t.	28.8	29.6	29.4	30.0	29.2
CO, mg/cig.t.	6.6	8.9	10.6	8.6	10.2
NO, mg/cig.t.	0.17	0.18	0.26	0.24	0.24

Cigarette

Total RTD, mm of H ₂ O	58	100	128	113	128
Static Burn. Time, min.	6.3	6.4	7.0	7.2	7.1
Length, mm	98.8	98.7	99.4	98.6	99.5
Circumference, mm	25.0	24.8	25.0	25.0	24.4

Paper

Components

Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	1.5	1.6	0.8	0.2	0.9
Porosity, sec.	20	21	14	14	12

Filter

Type	----	CA	CA	CA	CA
Inner	CA	----	----	----	----
Outer	PL	----	----	----	----
RTD, mm of H ₂ O	77	83	126	86	105
Length, mm	27.0	27.0	27.5	27.0	26.9
Weight, g	0.16	0.15	0.29	0.16	0.18
Fiber denier/shape	----	3.1/Y	2.6/Y	3.2/Y	3.4/Y
Inner	1.8/Y	----	----	----	----
Outer	----	----	----	----	----
Tipping Paper					
Length, mm	32	35	34	36	35
Color	White	White	Cork	Cork	White
Ventilation, %	54	44	36	34	28

Filler

Total alkaloids, % (DWB)	2.24	2.19	1.70	2.08	2.02
Total red. sugars, % (DWB)	7.8	9.5	8.7	8.2	9.8
Reconstituted Tob., %	20	19	22	11	16
Expanded Stems, %	None	None	None	11	3
Expanded Tob., %	12	12	16	11	13
Wt. of tob., g (Corrected to 12.5% O.V.)	0.802	0.802	0.838	0.831	0.809
Rod Length, mm	71.8	71.7	71.9	71.6	72.6
Rod Density, g/cc	0.224	0.227	0.238	0.235	0.238

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

205008128

LOW TAR 100 MM FILTER CIGARETTES(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

VL8	MES	SN8	BL8	ML8
Viceroy	Merit	Satin	B & H Lights	Marlboro Lights
Rich				
Lights				
0.14	1.66	0.23	1.11	2.43
10.1	10.2	10.4	10.5	10.7
0.81	0.72	0.88	0.76	0.76
8.6	10.0	9.4	10.4	10.2
53	59	52	58	58
28.6	28.5	28.1	30.2	30.6
9.6	12.3	11.2	11.7	13.2
0.26	0.28	0.22	0.23	0.25
118	132	109	130	135
7.1	7.4	6.6	7.4	7.8
99.0	99.3	98.8	99.2	99.2
24.9	24.8	25.0	24.8	24.8
Cit.	Cit.	Cit.	Cit.	Cit.
0.2	0.7	1.7	0.6	0.5
14	12	20	15	14
CA	CA	CA	CA	CA
---	---	---	---	---
---	---	---	---	---
84	111	88	109	111
26.8	31.4	26.9	31.6	31.5
0.16	0.18	0.16	0.19	0.19
3.0/Y	2.6/Y	2.6/Y	2.6/Y	2.8/Y
---	---	---	---	---
---	---	---	---	---
36	36	32	36	36
Cork	Cork	White	White	White
29	28	35	31	24
2.10	1.86	2.17	1.91	1.83
8.0	7.0	8.6	7.6	7.8
11	21	20	21	21
11	2	None	2	2
11	12	12	12	12
0.827	0.808	0.803	0.812	0.814
72.2	67.9	71.9	67.6	67.7
0.234	0.244	0.226	0.246	0.246

¹SalesSmoke

FTC Tar, mg/cig.
 Nicotine, mg/cig.
 Puffs/cig.
 Filtration Eff., %
 Filler Rod TPM, mg/cig.
 CO, mg/cig.
 NO, mg/cig.

Cigarette

Total RTD, mm of H₂O
 Static Burn. Time, min.
 Length, mm
 Circumference, mm

Paper Components

Type
 Percent
 Porosity, sec.

Filter

Type
 Inner
 Outer
 RTD, mm of H₂O
 Length, mm
 Weight, g
 Fiber denier/shape
 Inner
 Outer
 Tipping Paper
 Length, mm
 Color
 Ventilation, %

Filler

Total alkaloids, % (DWB)
 Total red. sugars, % (DWB)
 Reconstituted Tob., %
 Expanded Stems, %
 Expanded Tob., %
 Wt. of tob., g (Corrected
 to 12.5% O.V.)
 Rod Length, mm
 Rod Density, g/cc

2020081227

LOW TAR 100 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	ML8B Marlboro Lights (Box)	CL8 Camel Lights	WL8 Winston Lights	SE8B Sterling Special Blend (Box)	LM8
¹ Sales	0.66	0.46	2.23	0.20	0.18
<u>Smoke</u>					
FTC Tar, mg/cig.t.	11.0	11.0	11.1	11.2	12.4
Nicotine, mg/cig.t.	0.76	0.79	0.86	0.87	0.94
Puffs/cig.t.	10.1	9.8	9.6	10.1	8.1
Filtration Eff., %	58	61	61	52	48
Filler Rod TPM, mg/cig.t.	31.9	28.4	30.0	31.6	25.0
CO, mg/cig.t.	12.3	13.8	14.8	10.7	13.2
NO, mg/cig.t.	0.25	0.31	0.34	0.32	0.24
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	135	144	147	127	122
Static Burn. Time, min.	7.6	7.2	7.0	7.4	6.6
Length, mm	98.4	99.0	98.9	93.8	98.5
Circumference, mm	24.8	25.0	24.8	24.8	24.7
<u>Paper</u>					
Components					
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.6	0.5	0.6	0.4	0.9
Porosity, sec.	20	15	14	15	6*
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	113	115	117	100	71
Length, mm	31.6	30.8	31.0	27.0	29.9
Weight, g	0.19	0.20	0.19	0.18	0.17
Fiber denier/shape	3.0/Y	2.6/Y	2.7/Y	3.6/Y	3.6/Y
Tipping Paper					
Length, mm	36	35	35	31	35
Color	White	Cork	Cork	Cork	White
Ventilation, %	26	16	17	29	----
<u>Filler</u>					
Total alkaloids, % (DWB)	1.88	1.76	1.82	1.78	1.93
Total red. sugars, % (DWB)	6.4	8.2	7.9	7.4	9.8
Reconstituted Tob., %	21	24	24	26	10
Expanded Stems, %	2	None	None	None	7
Expanded Tob., %	12	16	15	16	26
Wt. of tob., g (Corrected to 12.5% O.V.)	0.804	0.815	0.824	0.840	0.696
Rod Length, mm	66.8	68.2	67.9	66.8	68.6
Rod Density, g/cc	0.247	0.241	0.245	0.256	0.210

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

*These cigarette papers are mechanically perforated.

2050081230

LOW TAR 100 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

KNS	PA8B Players (Box)	RL8 Raleigh	PL8 Pall Mall	VC8 Viceroy
0.76	0.16	0.64	1.09	0.34
13.6	13.8	15.0	15.0	15.2
1.09	0.94	1.06	1.18	1.09
9.7	9.1	8.6	9.0	9.0
41	48	49	45	46
28.8	29.6	27.4	26.7	28.4
12.5	13.0	16.4	16.2	13.8
0.24	0.25	0.43	0.36	0.30
86	112	117	129	118
6.8	7.2	7.1	6.7	6.8
98.8	98.1	98.7	99.7	98.7
24.9	24.2	25.0	24.4	25.0
Cit.	Cit.	Cit.	Cit.	Cit.
0.7	2.0	0.2	0.8	0.2
20	12	14	13	14
CA	CA	CA	CA	CA
54	72	64	67	64
27.0	31.5	26.9	26.8	26.8
0.16	0.18	0.16	0.16	0.16
4.6/Y	4.5/Y	3.8/Y	4.2/Y	4.1/Y
32	36	32	32	32
White	Cork	Cork	White	Cork
28	20	----	----	9
1.89	1.82	1.91	2.09	1.99
8.9	6.7	8.3	10.9	9.8
19	21	11	17	11
None	2	11	3	11
12	12	4	9	11
0.804	0.756	0.840	0.848	0.810
71.8	66.6	71.8	72.9	71.9
0.229	0.245	0.236	0.246	0.231

1 Sales

Smoke

- FTC Tar, mg/cig.
- Nicotine, mg/cig.
- Puffs/cig.
- Filtration Eff., %
- Filler Rod TPM, mg/cig.
- CO, mg/cig.
- NO, mg/cig.

Cigarette

- Total RTD, mm of H₂O
- Static Burn. Time, min.
- Length, mm
- Circumference, mm

Paper

Components

- Type
- Percent
- Porosity, sec.

Filter

- Type
- RTD, mm of H₂O
- Length, mm
- Weight, g
- Fiber denier/shape
- Tipping Paper
- Length, mm
- Color
- Ventilation, %

Filler

- Total alkaloids, % (DWB)
- Total red. sugars, % (DWB)
- Reconstituted Tob., %
- Expanded Stems, %
- Expanded Tob., %
- Wt. of tob., g (Corrected to 12.5% O.V.)
- Rod Length, mm
- Rod Density, g/cc

N050081231

FULL FLAVORED 100 MM FILTER CIGARETTES(16 MG TAR OR MORE)

(Brands ranked according to FTC Tar, left to right)

*BH8*B & H

1.77

*MR8*Marlboro

2.93

*WN8*Winston

2.93

¹SalesSmoke

	<u>B & H</u>	<u>Marlboro</u>	<u>Winston</u>
FTC Tar, mg/cig.t.	16.3	16.3	16.3
Nicotine, mg/cig.t.	1.07	1.08	1.20
Puffs/cig.t.	10.4	10.4	10.4
Filtration Eff., %	48	48	48
Filler Rod TPM, mg/cig.t.	30.5	29.4	31.4
CO, mg/cig.t.	16.6	16.2	17.6
NO, mg/cig.t.	0.30	0.30	0.34

Cigarette

Total RTD, mm of H ₂ O	124	123	122
Static Burn. Time, min.	7.7	7.4	7.3
Length, mm	99.3	99.4	99.4
Circumference, mm	24.8	24.8	25.0

Paper

Components	Cit.	Cit.	Cit.
Type			
Percent	0.6	0.6	1.4
Porosity, sec.	13	12	21

Filter

Type	CA	CA	CA
RTD, mm of H ₂ O	75	76	77
Length, mm	27.6	27.5	27.4
Weight, g	0.17	0.17	0.17
Fiber denier/shape	3.6/Y	3.7/Y	3.8/Y
Tipping Paper			
Length, mm	32	31.5	32
Color	White	Cork	Cork
Ventilation, %	12	13	17

Filler

Total alkaloids, % (DWB)	1.89	1.83	1.94
Total red. sugars, % (DWB)	7.5	7.2	9.2
Reconstituted Tob., %	21	21	24
Expanded Stems, %	2	2	None
Expanded Tob., %	12	12	15
Wt. of tob., g (Corrected to 12.5% O.V.)	0.860	0.862	0.876
Rod Length, mm	71.7	71.9	72.0
Rod Density, g/cc	0.248	0.248	0.247

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

2050081232

120 MM FILTER CIGARETTES

(Brands ranked according to FTC Tar, left to right)

	CR9 Carlton	SR9B Saratoga (Box)	MO9 More
¹ Sales	0.31	0.34	0.95
<u>Smoke</u>			
FTC Tar, mg/cig.t.	6.8	14.1	17.7
Nicotine, mg/cig.t.	0.63	0.99	1.30
Puffs/cig.t.	10.0	12.3	13.6
Filtration Eff., %	44	48	47
Filler Rod TPM, mg/cig.t.	22.8	27.1	35.3
CO, mg/cig.t.	4.8	14.5	21.6
NO, mg/cig.t.	0.14	0.30	0.41
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	96	168	181
Static Burn. Time, min.	5.7	6.9	8.7
Length, mm	119.6	119.6	119.7
Circumference, mm	22.3	22.0	21.1
<u>Paper</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	0.9	0.8	1.4
Color	White	White	Brown
Porosity, sec.	13	16	38
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	90	109	122
Length, mm	30.0	30.0	35.0
Weight, g	0.14	0.15	0.16
Fiber denier/shape	4.8/Y	3.2/Y	4.7/Y
Tipping Paper			
Length, mm	35	35	39
Color	White	Cork	Brown
Ventilation, %	60	24	28
<u>Filler</u>			
Total alkaloids, % (DWB)	2.25	1.84	1.82
Total red. sugars, % (DWB)	7.7	7.0	8.5
Reconstituted Tob., %	17	21	23
Expanded Stems, %	None	2	None
Expanded Tob., %	37	12	16
Wt. of tob., g (Corrected to 12.5% O.V.)	0.730	0.857	0.764
Rod Length, mm	89.6	89.6	84.7
Rod Density, g/cc	0.206	0.250	0.254

¹Estimated domestic sales in billions of cigarettes for 3rd quarter-
Maxwell Report - October, 1984.

2050081233

ULTRA LOW TAR 100 MM FILTER MENTHOL CIGARETTES

(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	NO 8M Now	MU8M Merit Ultra Lights	VU8M Vantage Ultra Lights	SU8M Salem Ultra Lights
¹ Sales	0.28	0.17	0.06	0.60
<u>Smoke</u>				
FTC Tar, mg/cig.t.	3.4	4.2	5.4	5.5
Nicotine, mg/cig.t.	0.34	0.36	0.48	0.46
Puffs/cig.t.	7.8	9.6	8.6	9.8
Filtration Eff., %	64	66	66	67
Filler Rod TPM, mg/cig.t.	27.6	26.2	28.0	30.6
CO, mg/cig.t.	3.8	4.4	5.6	7.1
NO, mg/cig.t.	0.12	0.12	0.16	0.18
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	102	110	133	122
Static Burn. Time, min.	6.0	6.4	6.3	6.7
Length, mm	98.9	99.4	98.7	99.1
Circumference, mm	24.9	24.8	24.9	24.8
<u>Paper</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	1.4	1.8	0.8	1.6
Porosity, sec.	24	14	15	22
<u>Filter</u>				
Type	CA	CA	CA	CA
RTD, mm of H ₂ O	137	139	154	154
Length, mm	31.0	31.6	31.0	31.1
Weight, g	0.21	0.22	0.23	0.22
Fiber denier/shape	2.9/Y	3.0/Y	3.0/Y	2.5/Y
Tipping Paper				
Length, mm	35	36	35	35
Color	White	Cork	White	White
Ventilation, %	67	60	50	56
<u>Filler</u>				
Total alkaloids, % (DWB)	2.28	1.95	2.03	1.77
Total red. sugars, % (DWB)	6.8	6.3	6.9	9.0
Reconstituted Tob., %	15	21	22	24
Expanded Stems, %	None	None	None	None
Expanded Tob., %	52	20	37	16
Wt. of tob., g (Corrected to 12.5% O.V.)	0.622	0.721	0.677	0.790
Rod Length, mm	67.9	67.8	67.7	68.0
Rod Density, g/cc	0.184	0.216	0.204	0.237
<u>Menthol, mg/cig.t.</u>				
Smoke	0.40	0.34	0.36	0.42
Filler	4.8	3.6	3.6	4.2
Filter	2.8	2.2	2.0	1.7
² Menthol, μ g/puff	49	35	40	42

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081234

ULTRA LOW TAR 100 MM FILTER MENTHOL CIGARETTES(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

BU8M
Benson & Hedges
DeLuxe Ultra
Lights (Box)BY8M
Barclay*KU8M
Kool Ultra*

0.64	0.09	0.18
5.9	* 3.1	* 5.4
0.47	* 0.29	* 0.49
9.0	* 9.4	* 9.0
60	56	53
27.7	27.8	31.0
5.5	* 1.6	* 3.3
0.12	* 0.07	* 0.07

107	30	43
6.4	6.1	6.1
98.2	99.1	98.9
24.1	24.8	24.9

Cit.	Cit.	Cit.
2.5	0.5	0.9
13	10	14
CA	CA	CA
121	68	68
31.5	27.0	27.0
0.18	0.15	0.16
3.1/Y	4.0/Y	4.0/Y

36	36	36
White	Cork	Cork
54	76	67

1.85	2.06	2.22
8.2	8.5	7.6
21	7	9
2	9	9
19	25	21

0.712	0.751	0.769
66.7	72.1	71.9
0.235	0.213	0.216

0.42	0.18	0.23
3.5	3.0	3.1
2.2	1.6	1.4
46	19	24

1 SalesSmoke

FTC Tar, mg/cig.

Nicotine, mg/cig.

Puffs/cig.

Filtration Eff., %

Filler Rod TPM, mg/cig.

CO, mg/cig.

NO, mg/cig.

CigaretteTotal RTD, mm of H₂O

Static Burn. Time, min.

Length, mm

Circumference, mm

PaperComponents

Type

Percent

Porosity, sec.

Filter

Type

RTD, mm of H₂O

Length, mm

Weight, g

Fiber denier/shape

Tipping Paper

Length, mm

Color

Ventilation, %

Filler

Total alkaloids, % (DWB)

Total red. sugars, % (DWB)

Reconstituted Tob., %

Expanded Stems, %

Expanded Tob., %

Wt. of tob., g (Corrected to 12.5% O.V.)

Rod Length, mm

Rod Density, g/cc

Menthol, mg/cig.

Smoke

Filler

Filter

2 Menthol, μ g/puff

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

2050081235

LOW TAR 100 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	BT8M Bright	KG8M Kent Golden Lights	TU8M True	NG8M Newport Lights
1 Sales	0.19	0.10	0.28	0.07
<u>Smoke</u>				
FTC Tar, mg/cig.t.	6.6	8.1	8.2	8.3
Nicotine, mg/cig.t.	0.55	0.76	0.78	0.77
Puffs/cig.t.	9.2	9.3	8.6	9.1
Filtration Eff., %	61	53	52	53
Filler Rod TPM, mg/cig.t.	31.6	28.8	29.4	28.6
CO, mg/cig.t.	8.4	6.6	7.0	8.0
NO, mg/cig.t.	0.20	0.14	0.19	0.17
<u>Cigarette</u>				
Total RTD, mm of H ₂ O	130	91	54	97
Static Burn. Time, min.	6.9	6.3	6.2	6.6
Length, mm	99.0	98.8	98.7	98.7
Circumference, mm	24.8	24.9	25.0	24.9
<u>Paper</u>				
Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	1.4	1.6	1.3	1.6
Porosity, sec.	22	22	(21)	21
<u>Filter</u>				
Type	CA	CA	---	CA
Inner	---	---	CA	---
Outer	---	---	PL	---
RTD, mm of H ₂ O	132	85	74	85
Length, mm	31.0	26.9	26.9	26.9
Weight, g	0.19	0.16	0.16	0.16
Fiber denier/shape	2.8/Y	3.0/Y	---	2.8/Y
Inner	---	---	1.8/Y	---
Outer	---	---	---	---
Tipping paper				
Length, mm	36	35	32	35
Color	White	White	White	Cork
Ventilation, %	47	52	56	46
<u>Filler</u>				
Total alkaloids, % (DWB)	1.97	2.14	2.19	2.11
Total red. sugars, % (DWB)	6.8	9.4	7.8	10.0
Reconstituted Tob., %	22	19	20	21
Expanded Stems, %	None	None	None	None
Expanded Tob., %	30	12	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.741	0.797	0.791	0.797
Rod Length, mm	68.0	71.9	71.8	71.8
Rod Density, g/cc	0.222	0.225	0.222	0.227
<u>Menthol, mg/cig.t.</u>				
Smoke	0.44	0.35	0.40	0.37
Filler	3.9	2.5	3.0	2.3
Filter	1.8	1.1	0.9	1.1
2Menthol, μ g/puff	48	38	42	41

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

LOW TAR 100 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

BA8M	SG8M	VE8M	KI8M
Belair	Salem Lights	Vantage	Kool Lights
0.53	2.41	0.08	0.25
8.7	9.0	9.4	9.4
0.63	0.72	0.69	0.77
8.6	9.9	9.8	8.8
47	60	60	48
27.0	29.7	30.6	29.6
8.4	11.7	10.9	9.2
0.24	0.26	0.27	0.24

¹Sales

Smoke

FTC Tar, mg/cig.t.
Nicotine, mg/cig.t.
Puffs/cig.t.
Filtration Eff., %
Filler Rod TPM, mg/cig.t.
CO, mg/cig.t.
NO, mg/cig.t.

Cigarette

Total RTD, mm of H ₂ O
Static Burn. Time, min.
Length, mm
Circumference, mm

Paper

Components
Type
Percent
Porosity, sec.

Filter

Type
Inner
Outer
RTD, mm of H ₂ O
Length, mm

Weight, g
Fiber denier/shape
Inner
Outer
Tipping Paper

Length, mm
Color
Ventilation, %

Filler

Total alkaloids, % (DWB)
Total red. sugars, % (DWB)
Reconstituted Tob., %
Expanded Stems, %
Expanded Tob., %

Wt. of tob., g (Corrected to 12.5% O.V.)
Rod Length, mm
Rod Density, g/cc

Menthol, mg/cig.t.

Smoke
Filler
Filter

²Menthol, μ g/puff

2050081237

LOW TAR 100 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

	<u>SN8M</u> Satin	<u>ME8M</u> Merit	<u>BL8M</u> B & H Lights
¹ Sales	0.14	0.33	0.96
<u>Smoke</u>			
FTC Tar, mg/cig.	10.2	10.4	10.6
Nicotine, mg/cig.	0.89	0.71	0.76
Puffs/cig.	9.1	9.8	10.2
Filtration Eff., %	53	58	57
Filler Rod TPM, mg/cig.	29.2	29.6	31.2
CO, mg/cig.	11.4	11.6	11.2
NO, mg/cig.	0.22	0.26	0.22
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	109	124	129
Static Burn. Time, min.	6.4	7.2	7.8
Length, mm	98.6	99.6	99.4
Circumference, mm	25.0	24.8	24.8
<u>Paper</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	1.9	0.8	0.8
Porosity, sec.	20	14	16
<u>Filter</u>			
Type	CA	CA	CA
RTD, mm of H ₂ O	88	106	109
Length, mm	27.0	31.4	31.4
Weight, g	0.16	0.19	0.19
Fiber denier/shape	2.6/Y	3.2/Y	2.6/Y
Tipping Paper			
Length, mm	32	36	36
Color	White	Cork	White
Ventilation, %	35	29	29
<u>Filler</u>			
Total alkaloids, % (DWB)	2.05	1.79	1.78
Total red. sugars, % (DWB)	9.4	5.8	7.7
Reconstituted Tob., %	20	21	21
Expanded Stems, %	None	2	2
Expanded Tob., %	12	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.801	0.804	0.808
Rod Length, mm	71.6	68.2	68.0
Rod Density, g/cc	0.226	0.244	0.245
<u>Menthol, mg/cig.</u>			
Smoke	0.36	0.59	0.64
Filler	2.3	3.3	3.4
Filter	1.0	1.7	1.5
² Menthol, μ g/puff	39	60	63

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -
Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms)
by number of puffs.

2050081238

LOW TAR 100 MM FILTER MENTHOL CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

SE8MB Sterling Special Blend (Box)	KL8M Kool	PA8MB Players (Box)	1 Sales
0.12	1.95	0.09	FTC Tar, mg/cig.
11.5	13.2	13.4	Nicotine, mg/cig.
0.90	0.89	0.94	Puffs/cig.
10.6	8.0	9.2	Filtration Eff., %
52	50	48	Filler Rod TPM, mg/cig.
32.9	25.4	28.9	CO, mg/cig.
10.4	16.3	13.6	NO _x , mg/cig.
0.20	0.36	0.24	
125	130	110	<u>Cigarette</u>
7.3	6.0	7.0	Total RTD, mm of H ₂ O
93.8	99.0	98.4	Static Burn. Time, min.
24.8	24.9	24.1	Length, mm
			Circumference, mm
Cit.	Cit.	Cit.	<u>Paper</u>
0.4	0.5	1.9	Type
16	13	14	Percent
			Porosity, sec.
CA	CA	CA	<u>Filter</u>
104	63	76	Type
27.0	27.0	31.6	RTD, mm of H ₂ O
0.18	0.16	0.18	Length, mm
3.6/Y	3.8/Y	4.4/Y	Weight, g
			Fiber denier/shape
31	32	36	Tipping Paper
Cork	Cork	Cork	Length, mm
33	----	24	Color
			Ventilation, %
1.75	1.96	1.85	<u>Filler</u>
8.1	8.3	7.6	Total alkaloids, % (DWB)
26	12	21	Total red. sugars, % (DWB)
None	12	2	Reconstituted Tob., %
16	11	12	Expanded Stems, %
			Expanded Tob., %
0.828	0.797	0.747	Wt. of tob., g (Corrected
66.8	72.0	66.8	to 12.5% O.V.)
0.252	0.224	0.246	Rod Length, mm
			Rod Density, g/cc
0.78	0.44	0.64	<u>Menthol, mg/cig.</u>
4.3	2.2	2.9	Smoke
1.6	0.9	1.1	Filler
74	52	70	Filter
			<u>2 Menthol, µg/puff</u>

2050081239

FULL FLAVORED 100 MM FILTER MENTHOL CIGARETTES(16 MG TAR OR MORE)

(Brands ranked according to FTC Tar, left to right)

	<u>SL8M</u> <u>Salem</u>	<u>BH8M</u> <u>B & H</u>	<u>NW8M</u> <u>Newport</u>
¹ Sales	2.13	1.64	0.58
<u>Smoke</u>			
FTC Tar, mg/cig.t.	15.6	16.3	19.0
Nicotine, mg/cig.t.	1.15	1.10	1.48
Puffs/cig.t.	10.2	10.4	9.2
Filtration Eff., %	46	49	42
Filler Rod TPM, mg/cig.t.	32.2	30.3	31.5
CO, mg/cig.t.	15.6	16.4	20.8
NO, mg/cig.t.	0.32	0.29	0.35
<u>Cigarette</u>			
Total RTD, mm of H ₂ O	114	126	111
Static Burn. Time, min.	7.2	7.6	7.2
Length, mm	99.4	99.4	98.8
Circumference, mm	24.8	24.8	24.9
<u>Paper</u>			
Components			
Type	Cit.	Cit.	Cit.
Percent	0.9	0.7	0.8
Porosity, sec.	14	15	32
Filter			
Type	CA	CA	CA
RTD, mm of H ₂ O	69	78	52
Length, mm	27.4	27.5	26.8
Weight, g	0.16	0.17	0.15
Fiber denier/shape	3.5/Y	3.7/Y	4.6/Y
Tipping Paper			
Length, mm	31	32	32
Color	White	White	Cork
Ventilation, %	17	13	----
<u>Filler</u>			
Total alkaloids, % (DWB)	1.77	1.80	2.06
Total red. sugars, % (DWB)	8.9	8.0	9.4
Reconstituted Tob., %	24	21	21
Expanded Stems, %	None	2	None
Expanded Tob., %	16	12	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.868	0.859	0.805
Rod Length, mm	72.0	71.9	72.0
Rod Density, g/cc	0.245	0.248	0.228
<u>Menthol, mg/cig.t.</u>			
Smoke	0.61	0.68	0.49
Filler	2.8	2.7	1.9
Filter	0.8	1.0	0.7
² Menthol, μ g/puff	59	66	53

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -

Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081240

120 MM FILTER MENTHOL CIGARETTES

(Brands ranked according to FTC Tar, left to right)

CR9M

Carlton

SR9MB

Saratoga
(Box)

MO9M

More

¹Sales

0.15

0.78

Smoke

FTC Tar, mg/cig.	6.0	14.0	17.0
Nicotine, mg/cig.	0.58	0.81	1.37
Puffs/cig.	10.7	13.2	13.8
Filtration Eff., %	44	49	48
Filler Rod TPM, mg/cig.	23.9	27.9	34.8
CO, mg/cig.	4.9	13.8	20.6
NO, mg/cig.	0.14	0.27	0.38

Cigarette

Total RTD, mm of H ₂ O	92	174	174
Static Burn. Time, min.	5.5	6.9	8.0
Length, mm	119.6	119.8	119.7
Circumference, mm	22.1	22.0	21.1

Paper

Components			
Type	Cit.	Cit.	Cit.
Percent	0.9	0.8	1.5
Color	White	White	Brown
Porosity, sec.	14	17	39

Filter

Type	CA	CA	CA
RTD, mm of H ₂ O	85	114	125
Length, mm	30.0	30.1	35.0
Weight, g	0.14	0.14	0.16
Fiber denier/shape	4.8/Y	3.0/Y	4.9/Y
Tipping Paper			
Length, mm	35	35	39
Color	White	Cork	Brown
Ventilation, %	64	27	32

Filler

Total alkaloids, % (DWB)	2.26	1.80	1.97
Total red. sugars, % (DWB)	8.5	6.8	9.0
Reconstituted Tob., %	17	21	23
Expanded Stems, %	None	2	None
Expanded Tob., %	37	12	16
Wt. of tob., g (Corrected to 12.5% O.V.)	0.730	0.853	0.771
Rod Length, mm	89.6	89.7	84.7
Rod Density, g/cc	0.211	0.250	0.260

Menthol, mg/cig.

Smoke	0.50	0.77	0.70
Filler	4.6	4.3	3.1
Filter	1.1	1.2	0.8
² Menthol, μ g/puff	45	59	52

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

2050081241

100 MM FILTER SLIM CIGARETTES

(Brands ranked according to FTC Tar, left to right)

VG8M
Virginia
Slims
Lights
(Box)

MG8B
More
Lights
(Box)

ST8
Silva
Thins

VP
Virginia
Slims

¹Sales 0.97 0.28 0.10 0.98

Smoke

FTC Tar, mg/cig.	9.5	9.5	10.6	14.3
Nicotine, mg/cig.	0.66	0.81	0.92	0.97
Puffs/cig.	9.4	9.8	9.4	9.6
Filtration Eff., %	53	47	41	44
Filler Rod TPM, mg/cig.	27.9	26.8	23.5	27.4
CO, mg/cig.	9.2	9.2	9.5	13.4
NO, mg/cig.	0.18	0.19	0.20	0.26

Cigarette

Total RTD, mm of H ₂ O	126	108	129	128
Static Burn. Time, min.	7.2	7.2	6.5	7.0
Length, mm	98.2	97.6	99.4	99.5
Circumference, mm	23.0	22.6	22.2	23.0

Paper

Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.7	1.0	0.8	0.6
Porosity, sec.	15	14	13	14

Filter

Type	CA	CA	CA	CA
RTD, mm of H ₂ O	112	101	85	75
Length, mm	31.5	31.0	26.9	27.4
Weight, g	0.16	0.15	0.14	0.13
Fiber denier/shape	3.1/Y	3.4/Y	4.8/Y	3.5/Y
Tipping Paper				
Length, mm	36	35	32	32
Color	White	Deep Tan	White	White
Ventilation, %	36	46	30	16

Filler

Total alkaloids, % (DWB)	1.75	1.84	2.15	1.77
Total red. sugars, % (DWB)	6.9	8.1	9.0	7.0
Reconstituted Tob., %	21	23	12	21
Expanded Stems, %	2	None	9	2
Expanded Tob., %	12	16	14	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.692	0.685	0.715	0.737
Rod Length, mm	66.7	66.6	72.5	72.1
Rod Density, g/cc	0.247	0.252	0.250	0.235

N
050081242

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

100 MM FILTER SLIM MENTHOL CIGARETTES

(Brands ranked according to FTC Tar, left to right)

	<u>SS8MB</u> Salem Slim Lights (Box)	<u>YG8MB</u> Virginia Slims < Lights (Box)	<u>MG8MB</u> More Lights (Box)	<u>ST8M</u> Silva Thins Silva Thins	<u>VA8M</u> Virginia Slims
¹ Sales	0.55	1.13	0.18	0.03	0.84
<u>Smoke</u>					
FTC Tar, mg/cig.	8.0	9.0	9.4	10.8	15.3
Nicotine, mg/cig.	0.68	0.63	0.77	0.90	0.98
Puffs/cig.	8.6	9.4	9.6	9.4	10.2
Filtration Eff., %	49	52	46	40	43
Filler Rod TPM, mg/cig.	26.2	27.2	26.5	25.3	28.2
CO, mg/cig.	9.2	8.8	9.1	8.5	13.5
NO, mg/cig.	0.22	0.18	0.20	0.25	0.24
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	112	123	107	119	125
Static Burn. Time, min.	6.2	6.6	6.7	6.6	7.0
Length, mm	97.9	98.4	97.9	99.4	99.4
Circumference, mm	22.6	23.0	22.6	22.2	23.0
<u>Paper</u>					
Components					
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.8	0.7	1.2	0.8	0.7
Porosity, sec.	15	15	15	14	15
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	99	113	99	84	76
Length, mm	31.1	31.6	31.0	26.9	27.6
Weight, g	0.15	0.17	0.15	0.14	0.13
Fiber denier/shape	3.4/Y	3.2/Y	3.2/Y	4.7/Y	3.4/Y
Tipping Paper					
Length, mm	35	36	35	32	32
Color	White	White	Deep Tan	White	White
Ventilation, %	46	40	46	33	20
<u>Filler</u>					
Total alkaloids, % (DWB)	1.90	1.76	1.74	2.10	1.75
Total red. sugars, % (DWB)	8.6	7.2	8.1	8.6	6.9
Reconstituted Tob., %	24	21	23	17	21
Expanded Stems, %	None	2	None	3	2
Expanded Tob., %	26	12	16	8	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.641	0.694	0.681	0.720	0.738
Rod Length, mm	66.8	66.8	66.9	72.5	71.8
Rod Density, g/cc	0.236	0.249	0.251	0.252	0.245
<u>Menthol, mg/cig.</u>					
Smoke	0.44	0.63	0.62	0.40	0.61
Filler	3.0	3.8	3.6	2.3	2.5
Filter	1.0	1.6	1.3	0.8	0.9
² Menthol, μ g/puff	49	64	63	41	60

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²These values were calculated by dividing the total deliveries (in micrograms) by number of puffs.

CHARCOAL

2050081243

85 MM CHARCOAL FILTER CIGARETTES

(Brands ranked according to FTC Tar, left to right)

	TG6 Tareyton Lights	LG6 Lark Lights	PM6 B & H Multifilter	TR6 Tareyton	LR6 Lark
¹ Sales	0.08	0.18	0.09	0.75	0.12
Smoke					
FTC Tar, mg/cig.	5.3	11.3	12.1	12.3	12.8
Nicotine, mg/cig.	0.42	0.84	0.86	0.95	0.92
Puffs/cig.	6.7	6.8	8.2	8.0	7.0
Filtration Eff., %	55	47	47	52	46
Filler Rod TPM, mg/cig.	23.5	25.8	31.2	27.8	27.2
Gas Phase Smoke Index, % Reduction	59	32	50	24	34
CO, mg/cig.	4.2	12.7	10.6	14.6	13.0
NO, mg/cig.	0.12	0.23	0.24	0.34	0.25
Cigarette					
Total RTD, mm of H ₂ O	90	114	91	120	120
Static Burn. Time, min.	6.0	6.4	7.0	6.5	6.8
Length, mm	84.3	84.5	83.8	84.7	84.5
Circumference, mm	25.0	24.8	25.0	25.0	24.6
Paper					
Components					
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.8	2.8	0.7	0.7	0.7
Porosity, sec.	12	7**	12	13	13
Filter					
Type	----	----*	----	----	----*
Inner	C	In Paper	CA	C-CA	In Paper
Outer	CA		CA	CA-PL	CA
RTD, mm of H ₂ O	79	67	71	65	68
Length, mm	27.0	24.8	25.0	20.0	24.8
Weight, g	0.21	0.20	0.35	0.18	0.20
Fiber denier/shape	----	----	----	----	----
Inner	----	3.6/Y	3.4/I	----	3.7/Y
Outer	3.0/Y	3.8/Y	3.2/Y	4.2/Y	3.9/Y
Carbon, mg/plug	7	66	40	31	68
Tipping Paper					
Length, mm	32	30	30	24	30
Color	Cork	Cork	White	Cork	Cork
Ventilation, %	48	----	23	----	----
Filler					
Total alkaloids, % (DWB)	1.94	1.90	1.71	2.03	1.87
Total red. sugars, % (DWB)	9.5	11.8	5.1	9.0	11.7
Reconstituted Tob., %	15	14	21	15	14
Expanded Stems, %	3	7	2	3	7
Expanded Tob., %	39	17	12	15	17
Wt. of tob., g (Corrected to 12.5% O.V.)	0.577	0.650	0.690	0.752	0.647
Rod Length, mm	57.3	59.7	58.8	64.7	59.7
Rod Density, g/cc	0.202	0.222	0.234	0.234	0.223

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -
Maxwell Report - October, 1984.

*Space containing carbon granules.

**These cigarette papers are mechanically perforated.

2050081244

100 MM CHARCOAL FILTER CIGARETTES

(Brands ranked according to FTC Tar, left to right)

	TG8 Tareyton Long Lights	PR8 Parliament Lights	TR8 Tareyton	LG8 Lark Lights	LR8 Lark
1 Sales	0.12	0.63	0.62	0.11	0.06
<u>Smoke</u>					
FTC Tar, mg/cig.t.	8.0	11.3	12.0	13.0	14.3
Nicotine, mg/cig.t.	0.67	0.82	0.93	0.97	1.03
Puffs/cig.t.	9.4	9.5	8.6	8.2	8.4
Filtration Eff., %	57	55	55	48	48
Filler Rod TPM, mg/cig.t.	27.6	29.8	25.8	25.3	30.6
Gas Phase Smoke Index, % Reduction	60	54	27	27	26
CO, mg/cig.t.	7.4	12.8	15.1	13.7	15.8
NO, mg/cig.t.	0.20	0.24	0.37	0.25	0.29
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	107	121	138	119	124
Static Burn. Time, min.	6.7	7.0	6.6	6.4	6.7
Length, mm	99.6	99.4	99.7	98.5	98.5
Circumference, mm	24.7	24.9	24.8	24.6	24.6
<u>Paper</u>					
Components					
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.9	1.7	0.8	2.6	0.7
Porosity, sec.	13	13	12	7**	13
<u>Filter</u>					
Type	---	---	---	---	---
Inner	C In Paper	C-CA	C In Paper	CA	CA
Outer	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	91	110	75	71	68
Length, mm	27.0	30.0 ²	26.9	29.8	30.0
Weight, g	0.21	0.22	0.20	0.21	0.20
Fiber denier/shape	----	----	----	----	----
Inner	----	4.8/X	----	3.9/Y	3.8/Y
Outer	3.2/I	3.4/Y	4.7/Y	3.8/Y	3.8/Y
Carbon, mg/plug	7	54	33	63	62
Tipping Paper					
Length, mm	32	36	32	35	35
Color	Cork	White	Cork	Cork	Cork
Ventilation, %	43	31	----	----	----
<u>Filler</u>					
Total alkaloids, % (DWB)	2.05	1.84	2.10	1.90	1.82
Total red. sugars, % (DWB)	9.3	6.4	9.5	12.2	12.0
Reconstituted Tob., %	15	21	15	14	14
Expanded Stems, %	3	2	3	7	7
Expanded Tob., %	15	12	15	17	17
Wt. of tob., g (Corrected to 12.5% O.V.)	0.819	0.829	0.820	0.750	0.764
Rod Length, mm	72.6	69.4	72.8	68.7	68.5
Rod Density, g/cc	0.232	0.242	0.232	0.225	0.230

¹Estimated domestic sales in billions of cigarettes for 3rd quarter -
Maxwell Report - October, 1984.

²The reported value includes the recessed portion.

*Space containing carbon granules.

**These cigarette papers are mechanically perforated.

80mm FILTER
70-85mm NF

80 MM FILTER CIGARETTES (BOX)

(Brands ranked according to FTC Tar, left to right)

	PR4B Parliament Lights	CL4B Camel Lights	KN4B Kent	WN4B Winston	MR4B Marlboro
¹ Sales	0.50	0.21	0.04	0.65	9.13
<u>Smoke</u>					
FTC Tar, mg/cig.t.	9.5	9.7	11.3	14.7	16.1
Nicotine, mg/cig.t.	0.71	0.79	0.91	1.10	1.06
Puffs/cig.t.	7.6	8.5	8.0	8.3	8.6
Filtration Eff., %	55	52	46	46	45
Filler Rod TPM, mg/cig.t.	31.2	31.2	29.4	30.4	31.6
CO, mg/cig.t.	9.1	9.2	12.3	14.7	13.9
NO, mg/cig.t.	0.19	0.26	0.24	0.32	0.27
<u>Cigarette</u>					
Total RTD, mm of H ₂ O	124	108	100	128	109
Static Burn. Time, min.	7.6	7.6	7.1	7.5	7.8
Length, mm	79.0	78.6	79.4	78.9	79.1
Circumference, mm	24.9	24.9	25.1	24.9	24.8
<u>Paper</u>					
Components					
Type	Cit.	Cit.	Cit.	Cit.	Cit.
Percent	0.4	0.8	0.7	0.4	0.6
Porosity, sec.	14	15	24	15	17
<u>Filter</u>					
Type	CA	CA	CA	CA	CA
RTD, mm of H ₂ O	115	89	66	72	65
Length, mm	25.1 ²	23.0	21.0	19.0	19.0
Weight, g	0.14	0.14	0.12	0.12	0.12
Fiber denier/shape	2.4/Y	2.7/Y	2.8/Y	2.6/Y	3.1/Y
Tipping Paper					
Length, mm	30	27	25	24	23
Color	White	Cork	White	Cork	Cork
Ventilation, %	29	31	24	----	9
<u>Filler</u>					
Total alkaloids, % (DWB)	1.85	1.74	1.85	1.76	1.85
Total red. sugars, % (DWB)	7.1	8.0	9.8	8.1	7.2
Reconstituted Tob., %	21	24	19	24	21
Expanded Stems, %	2	None	None	None	2
Expanded Tob., %	12	16	12	15	12
Wt. of tob., g (Corrected to 12.5% O.V.)	0.644	0.710	0.692	0.739	0.724
Rod Length, mm	53.9	55.6	58.4	59.9	60.1
Rod Density, g/cc	0.242	0.258	0.238	0.250	0.245

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

²The reported value includes the recessed portion.

2050081246

NON-FILTER CIGARETTES

(Brands ranked according to FTC Tar, left to right)

	<u>Camel</u>	<u>PM1</u>	<u>CH5</u>	<u>PL5</u>	<u>LS1</u>	<u>PM5</u>
	Philip Morris	Chesterfield King	Pall Mall	Lucky Strike	P. M. Commander	

¹Sales 2.84 0.02 0.56 4.40 1.00 0.16

Smoke

FTC Tar, mg/cig.	19.2	20.0	21.5	23.2	24.7	25.2
Nicotine, mg/cig.	1.39	1.24	1.48	1.50	1.62	1.56
Puffs/cig.	7.0	7.3	9.4	9.3	8.1	9.8
Filler Rod TPM, mg/cig.	32.8	31.4	28.9	30.2	38.2	31.2
CO, mg/cig.	13.7	11.8	13.8	16.6	16.4	15.8
NO, mg/cig.	0.28	0.18	0.18	0.37	0.33	0.23

Cigarette

Total RTD, mm of H ₂ O	64	61	84	76	58	66
Static Burn. Time, min.	7.2	7.5	7.4	7.1	9.2	6.9
Length, mm	68.8	69.8	85.0	83.7	68.8	84.2
Circumference, mm	25.0	24.8	24.8	24.8	25.0	24.8

Paper

Components	Cit.	Cit.	Cit.	Cit.	Phos.	Cit.
Type						
Percent	1.6	0.8	0.6	0.7	0.8	0.6
Porosity, sec.	21	14	12	19	33	13

Filler

Total alkaloids, % (DWB)	2.02	1.88	1.88	1.93	1.89	1.89
Total red. sugars, % (DWB)	9.2	9.2	12.9	11.1	11.9	8.3
Reconstituted Tob., %	13	20	8	16	16	20
Expanded Stems, %	None	2	7	3	4	2
Expanded Tob., %	16	15	18	9	10	15
Wt. of tob., g (Corrected to 12.5% O.V.)	0.814	0.815	0.987	1.031	0.853	0.974
Rod Density, g/cc	0.237	0.233	0.234	0.252	0.251	0.241

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

RECON
ES-ET

2050081247

CIGARETTE BLEND COMPONENTS
(Percent By Weight)

	Reconstituted Material	Expanded Tobacco	Expanded Stems
<u>PHILIP MORRIS</u>			
Alpine	21	12	2
B & H 100	21	12	2
B & H Menthol 100	21	12	2
B & H Lights 100	21	12	2
B & H Lights Menthol 100	21	12	2
B & H DeLuxe Ultra Lights 100	21	19	2
B & H DeLuxe Ultra Lights Men. 100	21	19	2
B & H Multifilter 85	21	12	2
B & H Multifilter Men. 85	21	12	2
Cambridge 85,100	16	30	None
Marlboro 80,85,100	21	12	2
Marlboro Lights 85,100	21	12	2
Marlboro Menthol 85	21	12	2
Merit 85,100	21	12	2
Merit Menthol 85,100	21	12	2
Merit Ultra Lights 85,100	21	20	None
Merit Ultra Lights Men. 85,100	21	20	None
Parliament Lights 80,85,100	21	12	2
Philip Morris 70,85 (NF)	20	15	2
Players 85,100	21	12	2
Players Menthol 85,100	21	12	2
Saratoga 120	21	12	2
Saratoga Menthol 120	21	12	2
Virginia Slims 100	21	12	2
Virginia Slims Menthol 100	21	12	2
Virginia Slims Lights 100	21	12	2
Virginia Slims Lights Men. 100	21	12	2
<u>BROWN & WILLIAMSON</u>			
Barclay 80,85	19	10	5
Barclay 100	7	25	9
Barclay Menthol 85,100	7	25	9
Belafr 85,100	10	13	15
Kool 85,100	12	11	12
Kool Lights 85,100	12	11	9
Kool Milds 85	12	11	10
Kool Ultra 85,100	9	21	9
Raleigh 85,100	11	4	11
Raleigh Lights 85,100	11	11	11
Viceroy 85,100	11	11	11
Viceroy Rich Lights 85,100	11	11	11
<u>LORILLARD</u>			
Kent 80,85,100	19	12	None
Kent Golden Lights 85,100	19	12	None
Kent Golden Lights Men. 85,100	19	12	None
Kent III 85,100	15	25	None
Newport 85,100	21	12	None
Newport Lights 85,100	21	12	None
Old Gold 85	19	12	None
Satin 100	20	12	None
Satin Menthol 100	20	12	None
True 85,100	20	12	None
True Menthol 85,100	20	12	None

The values for all manufacturers are the average of cigarettes manufactured from January through December, 1984.

2050081248

CIGARETTE BLEND COMPONENTS
(Percent By Weight)

	<u>Reconstituted Material</u>	<u>Expanded Tobacco</u>	<u>Expanded Stems</u>
<u>REYNOLDS</u>			
Bright Menthol 85,100	22	30	None
Camel 70 (NF)	13	16	None
Camel 85	24	16	None
Camel Lights 80,85,100	24	16	None
More 120	23	16	None
More Menthol 120	23	16	None
More Lights 100	23	16	None
More Lights Menthol 100	23	16	None
Now 80	None	93	None
Now 85,100	15	52	None
Now Menthol 85,100	15	52	None
Salem 85,100	24	16	None
Salem Lights 85,100	24	16	None
Salem Ultra Lights 85	24	28	None
Salem Ultra Lights 100	24	16	None
Salem Slim Lights 100	24	26	None
Sterling Special Blend 100	26	16	None
Sterling Special Blend Men. 100	26	16	None
Vantage 85,100	22	16	None
Vantage Menthol 85,100	22	16	None
Vantage Ultra Lights 85,100	22	25	None
Vantage Ultra Lights Men. 85	22	29	None
Vantage Ultra Lights Men. 100	22	37	None
Winston 80,85,100	24	15	None
Winston Lights 85,100	24	15	None
Winston Ultra Lights 85,100	24	24	None
<u>AMERICAN</u>			
Carlton 85,100	17	51	None
Carlton Menthol 85	17	51	None
Carlton 120	17	37	None
Carlton Menthol 120	17	37	None
Lucky Strike 70 (NF)	16	10	4
Lucky Strike 85	16	14	4
Pall Mall 85 (NF)	16	9	3
Pall Mall 100	17	9	3
Pall Mall Lights 100	16	13	3
Silva Thins 100	12	14	9
Silva Thins Menthol 100	17	8	3
Tareyton 85,100	15	15	3
Tareyton Lights 85	15	39	3
Tareyton Long Lights 100	15	15	3
<u>LIGGETT GROUP</u>			
Chesterfield 85 (NF)	8	18	7
Lark 85,100	14	17	7
Lark Lights 85,100	14	17	7
L & M 85	14	19	7
L & M 100	10	26	7

The values for all manufacturers are the average of cigarettes manufactured from January through December, 1984.

2050081249

MINOR
BRANDS

MINOR BRANDS

Brand	Cig. Length, mm	FTC Tar mg/cig.	Nicotine, mg/cig.	Puffs/ cig.	CO, mg/cig.	NO, mg/cig.
<u>FILTER - PLAIN</u>						
BENSON & HEDGES (BOX)	70	1.4	0.14	7.2	1.4	0.05
L & M (Box)	80	12.8	0.97	7.2	13.1	0.26
Triumph	84	3.3	0.36	7.2	2.6	0.07
Pall Mall Extra Light	85	7.0	0.68	8.6	6.6	0.19
Lucky Strike Lights	83	7.5	0.62	7.5	8.8	0.22
Old Gold Lights	84	9.1	0.88	7.0	9.3	0.18
Chesterfield	85	12.1	0.92	6.8	12.2	0.26
BENSON & HEDGES (BOX)	85	15.1	1.20	9.4	11.0	0.19
Pall Mall	82	16.6	1.28	8.8	17.1	0.37
Half & Half	85	18.1	1.50	9.9	17.7	0.42
Bull Durham	85	28.5	2.10	11.3	22.7	0.53
Winston International (Box)	94	16.6	1.20	9.2	14.2	0.34
Triumph	99	4.9	0.50	8.4	5.4	0.12
Kent III (Box)	98	4.9	0.53	8.3	5.4	0.12
Carlton Slims Deluxe (Box)	100	6.0	0.52	8.4	7.0	0.18
Lucky Strike Lights	100	9.1	0.78	9.8	10.8	0.26
Lucky Strike	100	11.0	0.93	10.6	9.2	0.24
Eve Slim Lights (Box)	98	11.4	0.92	8.1	9.6	0.18
St. Moritz	99	13.5	1.10	8.9	13.8	0.27
HI-LITE (BOX)	98	13.6	1.06	9.8	13.6	0.26
MARLBORO (BOX)	99	16.6	1.09	10.3	16.4	0.32
BENSON & HEDGES (BOX)	99	16.9	1.11	10.4	16.3	0.29
P.M. INTERNATIONAL (BOX)	99	17.5	1.14	10.5	16.0	0.31
Old Gold	99	19.4	1.67	9.2	20.5	0.36
Eve Lights (Box)	119	14.4	1.19	14.4	12.2	0.24
Long Johns	119	18.0	1.54	16.9	18.4	0.40
Max	120	18.5	1.55	10.8	18.2	0.29
Tall	120	20.6	1.70	14.8	21.4	0.44
<u>FILTER - CHARCOAL</u>						
Galaxy	84	14.0	0.98	8.2	14.7	0.30

¹ Tipping Paper Color: W = White, CK = Cork, B = Brown

² Filter Type: CA = Cellulose Acetate, C = Carbon

2050081250

MINOR BRANDS

Total RTD, mm of H ₂ O	Ventilation, %	Circumference, mm	Porosity, %	Tipping Paper Length, mm	Filter Length, mm	Filter Type ²	Brand
<u>FILTER - PLAIN</u>							
98	72	24.9	8	30W	25	CA	BENSON & HEDGES (BOX)
113		24.8	6*	26W	21	CA	L & M (Box)
94	65	24.9	22	32CK	25	CA	Triumph
105	48	24.8	14	30CK	25	CA	Pall Mall Extra Light
130	33	25.0	12	30CK	25	CA	Lucky Strike Lights
105	31	25.0	20	32CK	25	CA	Old Gold Lights
122		24.7	12	30CK	25	CA	Chesterfield
102	20	25.0	12	30W	20/5	CA	BENSON & HEDGES (BOX)
121		25.0	21	24CK	20	CA	Pall Mall
126		24.9	9	24CK	20	CA	Half & Half
82		26.2	47	24CK	20	CA	Bull Durham
108	7	25.3	15	31CK	27	CA	Winston International (Box)
112	56	24.8	16	35CK	27	CA	Triumph
112	53	24.6	18	35W	27	CA	Kent III (Box)
119	48	23.1	42	36W	32	CA	Carlton Slims Deluxe (Box)
134	34	24.4	14	32CK	27	CA	Lucky Strike Lights
107	38	25.3	11	32CK	27	CA	Lucky Strike
130		22.7	6*	35W	30	CA	Eve Slim Lights (Box)
121		24.8	7*	34W	27	CA	St. Moritz
122	21	24.8	14	31.5CK	27.5	CA	HI-LITE (BOX)
128	9	24.8	14	31.5CK	27.5	CA	MARLBORO (BOX)
130	9	24.8	14	32W	27.5	CA	BENSON & HEDGES (BOX)
130	10	24.8	16	32CK	27.5	CA	P.M. INTERNATIONAL (BOX)
114		24.8	35	32CK	27	CA	Old Gold
114	55	21.2	33	35W	30	CA	Eve Lights (Box)
137	39	22.4	34	35B	30	CA	Long Johns
133	16	21.9	32	35W	30	CA	Max
150	30	22.4	32	35W	30	CA	Tall
<u>FILTER - CHARCOAL</u>							
109	11	25.2	19	30CK	25	C-CA/CA	Galaxy

*These cigarette papers are mechanically perforated.

2030081221

MINOR BRANDS

Brand	Cig. Length, mm	FTC Tar, mg/ cigt.	Nico- tine, mg/ cigt.	Puffs/ cigt.	CO, mg/ cigt.	NO, mg/ cigt.	Smoke Menthol, mg/cigt.
<u>FILTER - MENTHOL</u>							
Kool (NF)	70	20.8	1.37	6.8	13.2	0.27	0.54
Newport Lights (Box)	80	8.1	0.76	6.9	9.6	0.18	0.33
Newport (Box)	79	15.8	1.26	7.8	16.2	0.33	0.43
Kool (Box)	80	16.3	1.16	7.7	14.3	0.30	0.46
Triumph	84	3.6	0.38	7.3	2.8	0.08	0.24
Montclair	83	15.3	1.11	7.4	15.6	0.36	0.42
Iceberg 100's	100	4.0	0.32	8.0	5.0	0.13	0.31
Triumph	99	4.9	0.48	8.2	4.9	0.12	0.35
Carlton	100	5.3	0.44	8.2	6.1	0.16	0.36
Carlton Slims Deluxe (Box)	100	6.0	0.52	8.4	6.2	0.17	0.40
Kool Milds	99	11.0	0.82	8.4	13.3	0.32	0.39
Eve Slim Lights (Box)	98	11.5	0.92	8.0	9.9	0.19	0.42
Pall Mall Lights	100	12.4	1.09	8.4	12.2	0.29	0.40
St. Moritz	99	13.7	1.10	8.9	14.2	0.28	0.48
Kent	99	15.4	1.33	9.0	14.3	0.27	0.42
BENSON & HEDGES (BOX)	99	16.1	1.04	10.2	15.5	0.29	0.67
P.M. INTERNATIONAL (BOX)	98	16.6	1.09	10.2	16.2	0.29	0.52
Spring	99	19.2	1.16	8.8	17.0	0.28	0.45
Eve Lights (Box)	120	15.0	1.22	14.6	11.9	0.25	0.71
Max	120	18.3	1.56	10.7	18.5	0.29	0.53
Tall	119	18.4	1.56	15.1	19.7	0.44	0.82
<u>NON-FILTER</u>							
ENGLISH OVALS (BOX)	68	17.1	1.32	7.2	9.1	0.22	
Chesterfield	70	18.2	1.22	7.1	12.0	0.16	
PLAYERS (BOX)	67	20.2	1.50	8.8	12.8	0.11	
ENGLISH OVALS (BOX)	83	21.1	1.71	10.4	12.0	0.28	
H. Tareyton	85	24.3	1.67	9.6	17.3	0.38	
Raleigh	84	24.8	1.55	9.3	17.5	0.38	
Old Gold	85	25.2	1.78	9.2	17.8	0.30	

¹Tipping Paper Color: W = White, CK = Cork, B = Brown

²Filter Type: CA = Cellulose Acetate, C = Carbon

2050081252

MINOR BRANDS

Total RTD, mm of H ₂ O	Ventilation, %	Circumference, mm	Porosity, %	Tipping Paper Length, ¹ mm	Filter Length, mm	Filter Type ²	Brand
<u>FILTER - MENTHOL</u>							
64		25.1	23	11CK			Kool (NF)
98	34	24.8	17	30CK	25	CA	Newport Lights (Box)
116		25.2	27	25CK	21	CA	Newport (Box)
120		24.9	20	23CK	18	CA	Kool (Box)
92	64	24.9	21	32CK	25	CA	Triumph
124		24.9	22	24W	20	CA	Montclair
124	51	24.6	13	32W	27	CA	Iceberg 100's
109	57	24.8	21	35CK	27	CA	Triumph
130	54	24.4	19	32W	27	CA	Carlton
119	49	22.8	14	36W	32	CA	Carlton Slims Deluxe (Box)
134	14	25.0	12	36CK	27	CA	Kool Milds
129		22.8	5*	35W	30	CA	Eve Slim Lights (Box)
123		24.4	7*	32W	27	CA	Pall Mall Lights
117		24.8	7*	34W	27	CA	St. Moritz
89	18	25.0	18	32W	27	CA	Kent
132	10	24.8	15	32W	27.5	CA	BENSON & HEDGES (BOX)
130	10	25.0	16	32CK	27.5	CA	P.M. INTERNATIONAL (BOX)
91		24.9	20	32W	27	CA	Spring
107	56	21.1	33	35W	30	CA	Eve Lights (Box)
134	16	22.0	35	35W	30	CA	Max
157	36	22.4	44	35W	30	CA	Tall
<u>NON-FILTER</u>							
75		25.2	11				ENGLISH OVALS (BOX)
66		25.0	10				Chesterfield
79		24.7	12				PLAYERS (BOX)
107		26.2	12				ENGLISH OVALS (BOX)
68		24.8	14				H. Tareyton
69		25.1	22				Raleigh
67		25.2	29				Old Gold

*These cigarette papers are mechanically perforated.

2050081253

CIGARETTES ON MARKET WITH TAR AND NICOTINE DATA LISTED ON PACK

	Tar, mg/cig.t.			Nicotine, mg/cig.t.		
	Listed On Package	FTC Data ¹	CI Data	Listed On Package	FTC Data ¹	CI Data
AMERICAN						
Carlton 85 (Box)	<0.01	<0.5	0.00	0.002	<0.05	0.00
Carlton Menthol 85	<1	1	1	0.1	0.1	0.1
Carlton 100 (Box)	<1	1	1	0.1	0.1	0.1
Carlton 85	1	1	2	0.2	0.1	0.2
Iceberg 100's	4	3	4	0.4	0.3	0.3
Carlton Menthol 100	5	5	5	0.5	0.4	0.5
Tareyton Lights 85	5	5	5	*	0.4	0.4
Carlton 100	5	5	5	0.5	0.4	0.4
Pall Mall Extra Light 85	7	7	7	*	0.6	0.6
Carlton Menthol 120	7	6	7	0.7	0.5	0.6
Carlton 120	7	6	7	0.7	0.6	0.6
Lucky Strike Low Tar 85	8	-	8	*	-	0.6
Lucky Strike Low Tar 100	9	-	9	*	-	0.8
LORILLARD						
Triumph Menthol 85	2	3	4	0.3	0.3	0.4
Triumph 85	3	3	3	0.4	0.4	0.4
Triumph Menthol 100	4	4	5	0.5	0.5	0.5
Triumph 100	4	4	5	0.5	0.4	0.5
PHILIP MORRIS						
Cambridge 83 (Box)	<0.1	<0.5	0.00	*	<0.05	0.00
Cambridge 84	1	1	1	*	0.1	0.1
Merit Ultra Lights 85	4	4	4	0.4	0.3	0.3
Merit Ultra Lights Menthol 85	4	4	4	0.4	0.3	0.3
Cambridge 100	5	5	4	*	0.4	0.4
Merit Ultra Lights 100	5	6	4	0.5	0.5	0.4
Merit Ultra Lights Menthol 100	5	4	4	0.5	0.3	0.3
B & H DeLuxe Ultra Lights 100 (Box)	6	6	6	0.6	0.5	0.4
B & H DeLuxe Ultra Lights Menthol 100 (Box)	6	6	6	0.6	0.5	0.4
Merit 85	8	9	8	0.6	0.6	0.6
Merit Menthol 85	8	9	8	0.6	0.6	0.6
Merit 100	10	11	10	0.8	0.7	0.7
Merit Menthol 100	10	10	10	0.8	0.7	0.7
REYNOLDS						
Now 80 (Box)	<0.5	<0.5	0.00	*	<0.05	0.00
Now 85	1	1	1	*	0.1	0.2
Now Menthol 85	1	1	2	*	0.1	0.2
Vantage Ultra Lights 85	5	5	6	*	0.4	0.5
Vantage Ultra Lights 100	5	5	5	*	0.4	0.4
Vantage Ultra Lights Menthol 85	5	5	5	*	0.4	0.4
Vantage Ultra Lights Menthol 100	5	5	5	*	0.4	0.5
Vantage 85	9	9	9	*	0.7	0.7
Vantage Menthol 85	9	10	9	*	0.7	0.7
Vantage 100	9	9	9	*	0.7	0.7
Vantage Menthol 100	9	-	10	*	-	0.8

1FTC data published March, 1984.

*Not Listed.

COUPON BRANDS

Twelve cigarette brands are now carrying coupons.

PHILIP MORRIS

Alpine (85)
Galaxy (85)

AMERICAN BRANDS

None

BROWN & WILLIAMSON¹

Belair (85 & 100)
Raleigh Filter (85 & 100)
Raleigh Nonfilter (85)
Raleigh Lights (85 & 100)

LORILLARD

None

LIGGETT GROUP

Chesterfield Nonfilter (70 & 85)
Chesterfield Filter 85

REYNOLDS

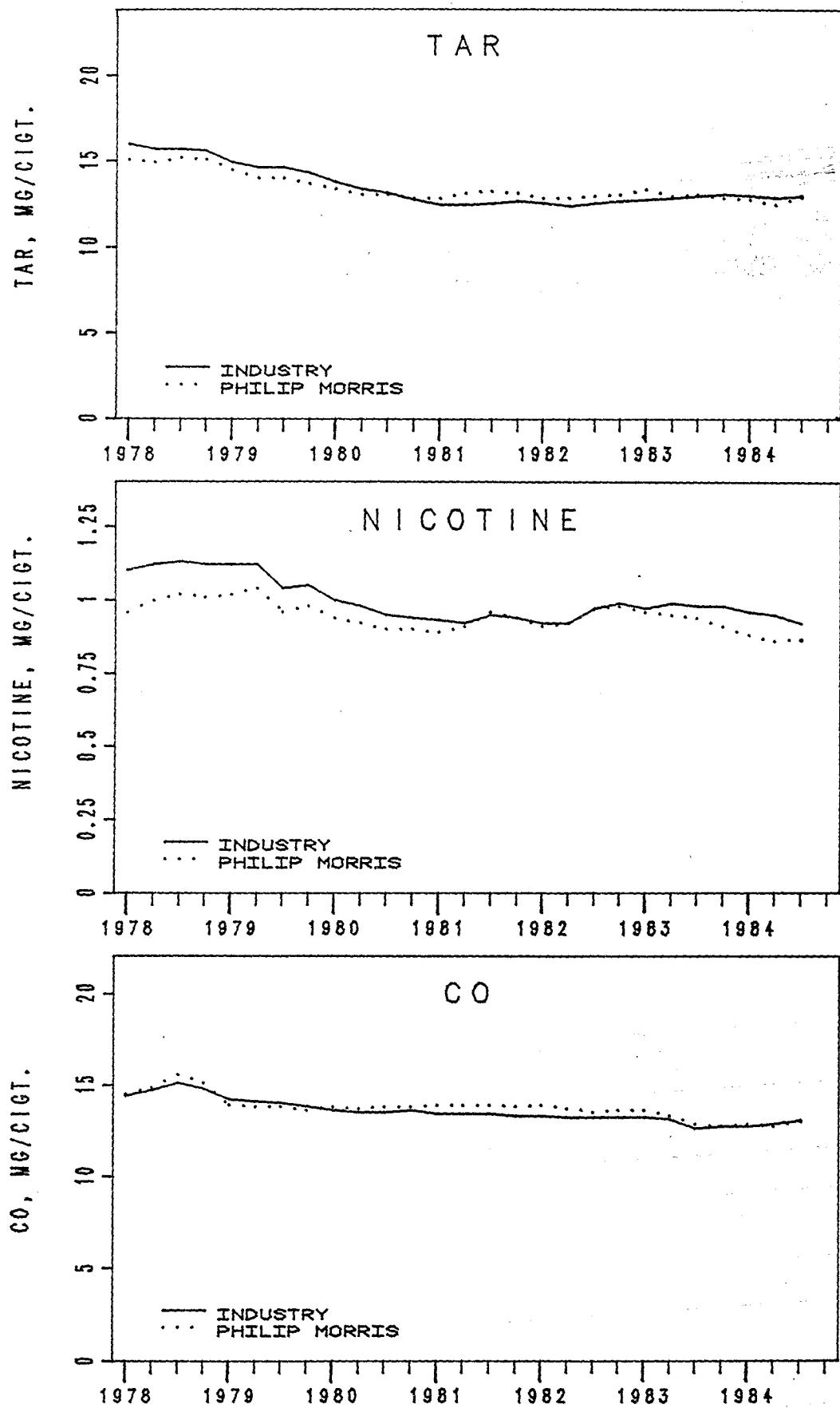
None

¹These brands contain 2 coupons per pack and 8 coupons in the carton.

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2050081256

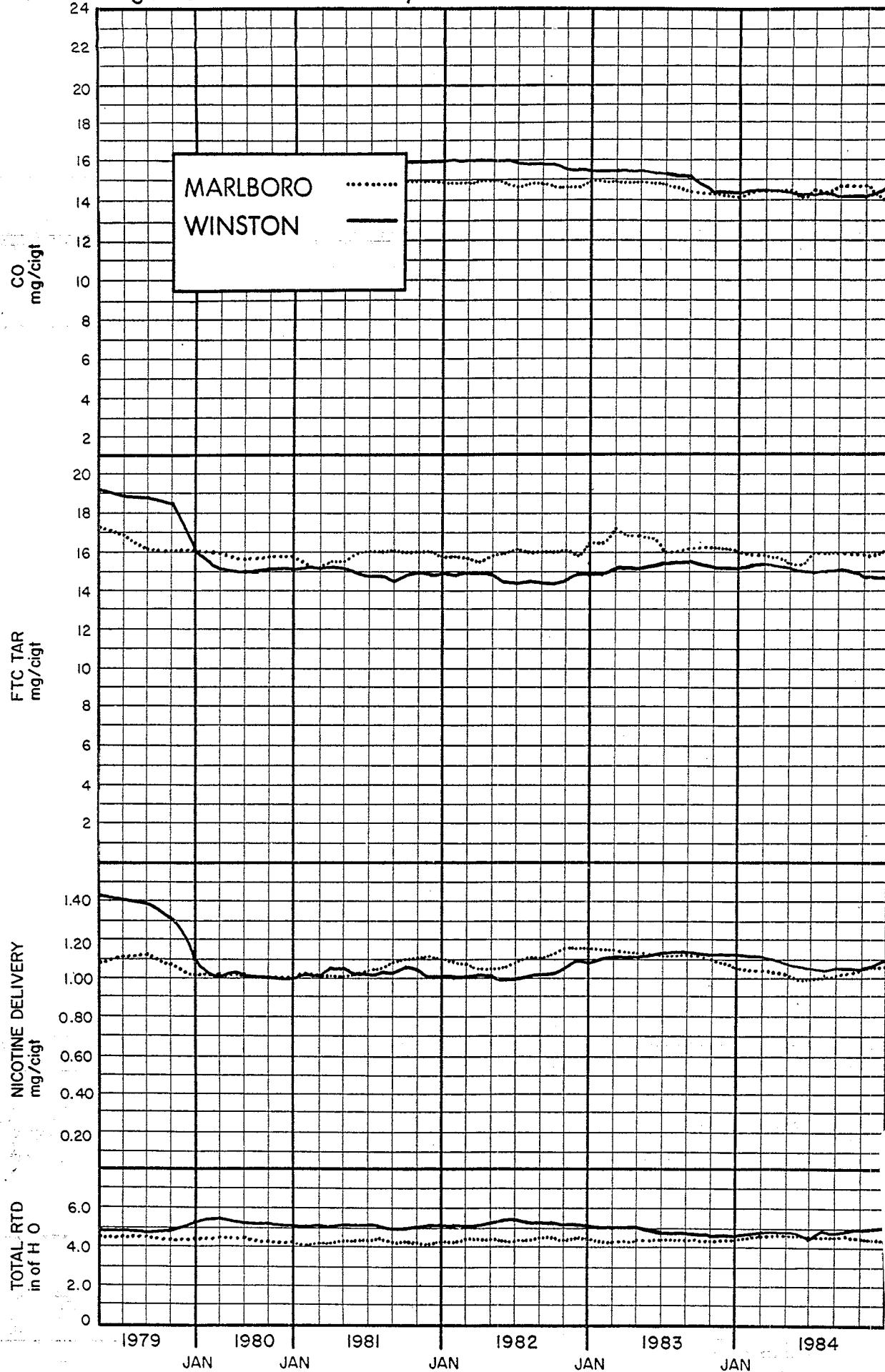
SALES WEIGHTED AVERAGES



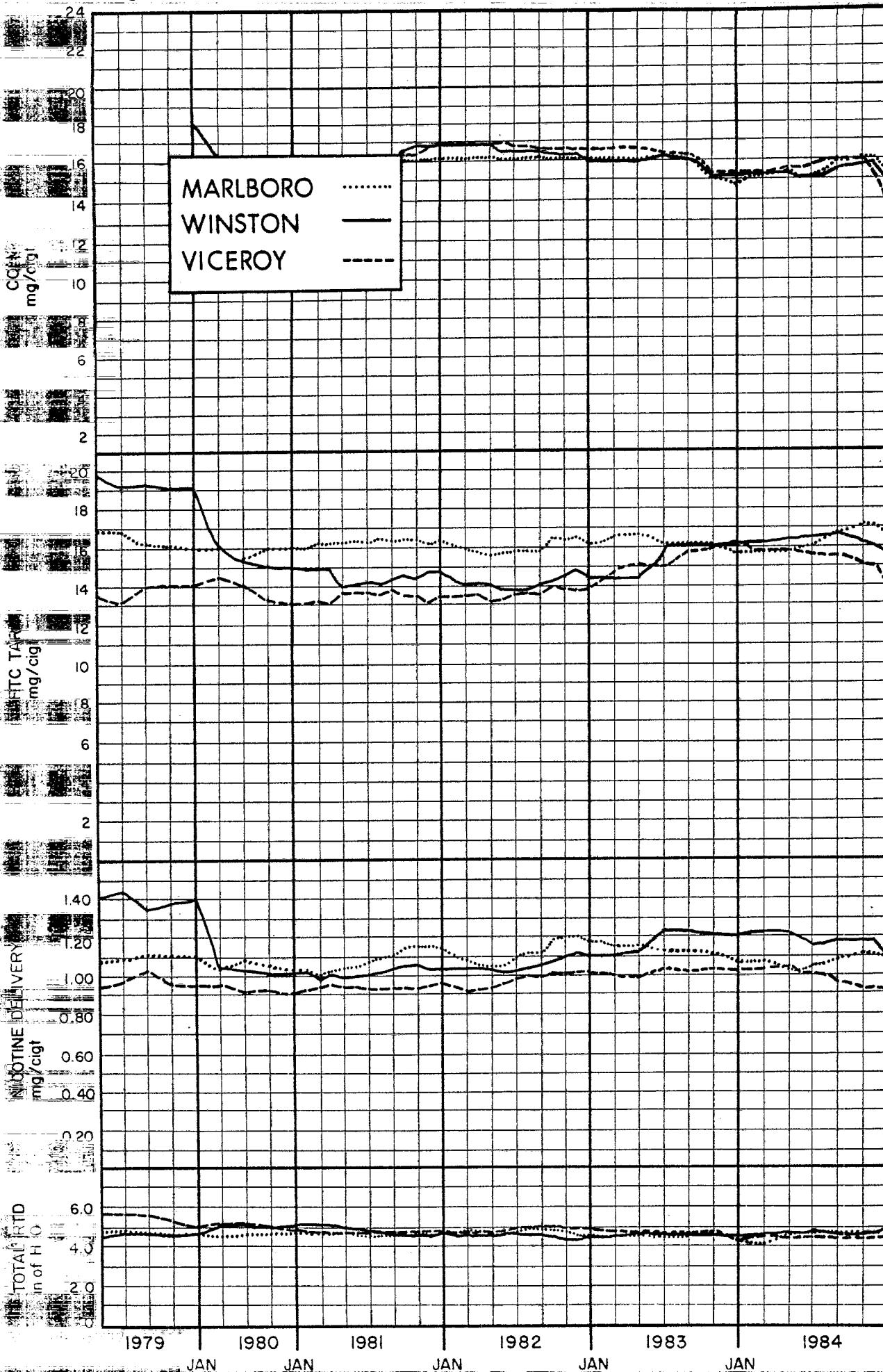
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GRAPHS

Long Filter: Plain MARLBORO,WINSTON



King Filter: Plain MARLBORO, WINSTON, VICEROY



2050081259

D. LORILLARD COMPANY (continued)REBEL 85

Introduced - test market - These cigarettes deliver 11.1 mg tar and 0.96 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Maverick 85. 10/81

Discontinued. 4/83

REBEL 100

Introduced - test market - These cigarettes deliver 10.9 mg tar and 0.99 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Maverick 100. 10/81

Discontinued. 4/83

REDFORD 85

Test marketed - new 85 mm "full flavor" cigarette - Similar to Old Gold 85. 4/73

SATIN 100

Test marketed - delivers 11 mg tar and 0.9 mg nicotine - two rows of mechanical perforation. 6/82

SATIN MENTHOL 100

Test marketed - delivers 11 mg tar, 0.9 mg nicotine and 0.39 mg menthol in smoke - two rows of mechanical perforation. 6/82

SPRING 85

Spring 85 replaced by Spring 100 in March, 1967 (History of Spring 85 in C.I. 1/72). 3/67

SPRING 100

Introduced - 100 mm mentholated cigarette with 20 mm CA filter. 3/67

Tar (1 mg) reduced by increasing tipping paper (24 to 27 mm). 11/67

Tar (2 mg) and nicotine (0.2 mg) reduced by increasing tipping paper (27 to 30 mm). 1/68

Filter length increased (20 to 25 mm) - Tar increased (2 mg). 1/69

Reconstituted tobacco increased 6 to 9% - RKS decreased 8 to 5%. 10/70

Reconstituted tobacco increased 11 to 18% - RKS decreased 8 to 0%. 9/71

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, and puff count - Also, lower tar and nicotine deliveries noted. 12/72

D. LORILLARD COMPANY (continued)KENT 100 (cont.)

Tar (2 mg) and nicotine (0.1 mg) reduced by increasing tipping paper (27 to 30 mm).	1/68
Tar (1 mg) and nicotine (0.1 mg) reduced by a change to a more porous paper.	5/68
RKS decreased (8 to 4%).	10/69
Reconstituted tobacco increased 10 to 17%.	10/70
Fiber shape changed from X-shape to Y-shape - Filter weight decreased - Tar increased (1 mg).	9/71
Reconstituted tobacco increased 16 to 18% - RKS decreased 6 to 2%.	9/71
RKS decreased 2 to 0%.	10/71
Alkaloids and reducing sugars increased - Nicotine delivery increased (0.1 mg).	5/72
Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, puff count, and higher total RTD - Also, lower tar and nicotine deliveries noted.	12/72
Tipping paper length increased 30 to 32 mm - tar (1 mg) and nicotine (0.1 mg) decreased.	11/74
Cigarette length (99.2 to 98.3 mm) decreased. Tobacco weight (0.87 to 0.84 g) decreased.	5/75
Filter length (25 to 27 mm) increased. No change in smoke deliveries.	6/75
Cigarette length increased (98.9 to 99.3 mm).	8/76
Lower tar (19 to 15 mg) and nicotine (1.3 to 1.1 mg) resulted from a change to a more efficient filter (42-52%) and more porous cigarette paper. Higher total and filter RTD's noted.	6/77
Lower tar delivery (15 to 13 mg) resulting from introduction of filter ventilation (30%). Change to a less efficient filter was also noted. The new ventilated filter is referred as the Micronite II filter.	7/77
Decrease in filter ventilation and change to a less porous cigarette paper resulted in an increase in tar delivery (13.6 to 14.5 mg).	12/77

2050081332

ULTRA LOW TAR 100 MM FILTER MENTHOL CIGARETTES(6 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

<u>BU8M</u>			<u>1Sales</u>
<u>BY8M</u>			
<u>KU8M</u>			<u>Smoke</u>
			<u>FTC Tar, mg/cigt.</u>
			<u>Nicotine, mg/cigt.</u>
			<u>Puffs/cigt.</u>
			<u>Filtration Eff., %</u>
			<u>Filler Rod TPM, mg/cigt.</u>
			<u>CO, mg/cigt.</u>
			<u>NO, mg/cigt.</u>
Benson & Hedges DeLuxe Ultra Lights (Box)	Barclay*	Kool Ultra*	
0.64	0.09	0.18	
5.9	* 3.1	* 5.4	
0.47	* 0.29	* 0.49	
9.0	* 9.4	* 9.0	
60	56	53	
27.7	27.8	31.0	
5.5	* 1.6	* 3.3	
0.12	* 0.05	5.89	
			<u>Cigarette</u>
107	30	43	<u>Total RTD, mm of H₂O</u>
6.4	6.1	6.1	<u>Static Burn. Time, min.</u>
98.2	99.1	98.9	<u>Length, mm</u>
24.1	24.8	24.9	<u>Circumference, mm</u>
			<u>Paper</u>
Cit.	Cit.	Cit.	<u>Components</u>
2.5	0.5	0.9	<u>Type</u>
13	10	14	<u>Percent</u>
			<u>Porosity, sec.</u>
CA	CA	CA	<u>Filter</u>
121	68	68	<u>Type</u>
31.5	27.0	27.0	<u>RTD, mm of H₂O</u>
0.18	0.15	0.16	<u>Length, mm</u>
3.1/Y	4.0/Y	4.0/Y	<u>Weight, g</u>
			<u>Fiber denier/shape</u>
36	36	36	<u>Tipping Paper</u>
White	Cork	Cork	<u>Length, mm</u>
54	76	67	<u>Color</u>
			<u>Ventilation, %</u>
			<u>Filler</u>
1.85	2.06	2.22	<u>Total alkaloids, % (DWB)</u>
8.2	8.5	7.6	<u>Total red. sugars, % (DWB)</u>
21	7	9	<u>Reconstituted Tob., %</u>
2	9	9	<u>Expanded Stems, %</u>
19	25	21	<u>Expanded Tob., %</u>
			<u>Wt. of tob., g (Corrected</u>
0.712	0.751	0.769	<u>to 12.5% O.V.)</u>
66.7	72.1	71.9	<u>Rod Length, mm</u>
0.235	0.213	0.216	<u>Rod Density, g/cc</u>
			<u>Menthol, mg/cigt.</u>
0.42	0.18	0.23	<u>Smoke</u>
3.5	3.0	3.1	<u>Filler</u>
2.2	1.6	1.4	<u>Filter</u>
46	19	24	<u>2Menthol, μg/puff</u>

*The FTC has determined that its present methodology does not accurately measure the smoke deliveries of cigarettes incorporating a "Barclay-type" filter.

2050081235

E. REYNOLDS TOBACCO COMPANY (continued)SALEM 85 (continued)

Test marketed pack containing 12 cigarettes per pack. 3/83

Ventilation decreased (18% to none) resulting in higher tar (15 to 16 mg), nicotine (1.2 to 1.3 mg), CO (16 to 18 mg), and menthol (0.57 to 0.68 mg) deliveries. 5/83

Paper component level increased (0.6 to 1.5%). 11/83

SALEM EXTRA 85

Introduced - Delivers more menthol than current Salem 85 - cork tipping. 10/74

SALEM LIGHTS 85

Menthol - Test marketed - Tar (12 mg) and nicotine (0.8 mg) deliveries - Lower in tar than Salem 85 because of more porous cigarette paper, filter ventilation and an increased filter and tipping paper length. 11/75

Tar delivery (1 mg) decreased by increase in filter ventilation. 4/76

Tar (10 to 8 mg), nicotine (0.8 to 0.6 mg), and CO (13 to 12 mg) decreased resulting from an increase in both filter ventilation (16 to 28%) and tipping paper length (30 to 32 mm). 10/80

Tar (8.6 to 8.2 mg) and CO (10.7 to 8.8 mg) decreased - increased filter ventilation (30 to 42%). Paper porosity decreased (17 to 26 sec.) - paper component increased (0.7 to 1.6%). Tobacco weight (0.714 to 0.689 g) decreased - increased amount of expanded tob. (13 to 17%). 10/82

Test marketed pack containing 12 cigarettes per pack. 3/83

Tar (8 to 9 mg), nicotine (0.7 to 0.8 mg), CO (9 to 11 mg), and menthol (0.31 to 0.50 mg) deliveries increased due to decreased ventilation. Ventilation system changed from two to one row of mechanical perforation - decreased paper component - increased cigarette paper porosity. 5/83

Filter length increased (25 to 27 mm), rod density increased (0.237 to 0.244 g/cc). 9/83

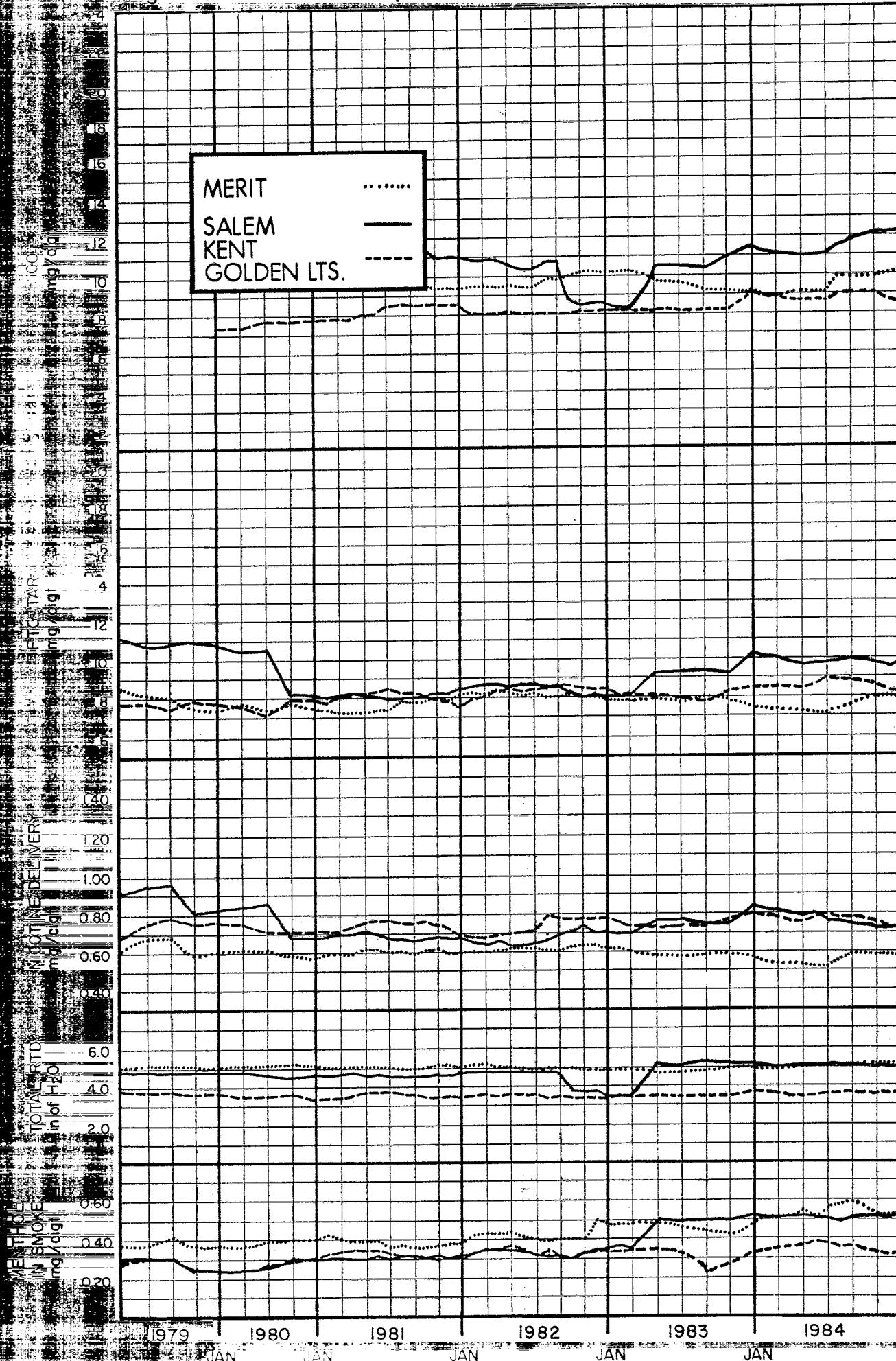
Tar (9 to 10 mg), nicotine (0.77 to 0.82 mg) and puff count (7.4 to 7.8) increased - tipping paper length decreased (32 to 31 mm) - filler menthol (2.6 to 2.9 mg) and smoke menthol (0.48 to 0.52 mg) increased. 3/84

2050081358

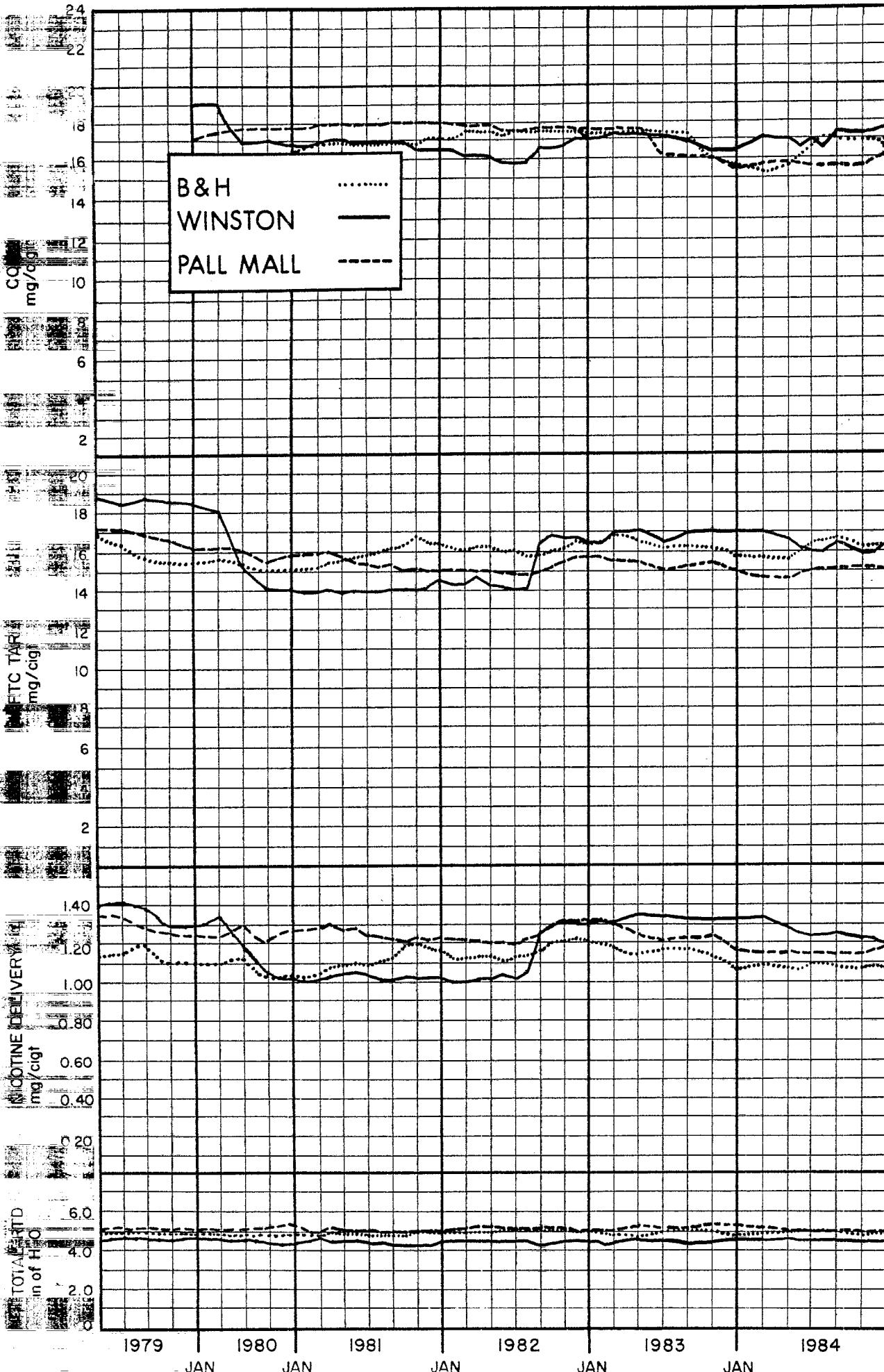
SALEM ULTRA 85

Name changed to Salem Ultra Lights. 3/82

King Filter-Menthol MERIT, SALEM LIGHTS, KENT GOLDEN LIGHTS



100's:BENSON & HEDGES, WINSTON, PALL MALL



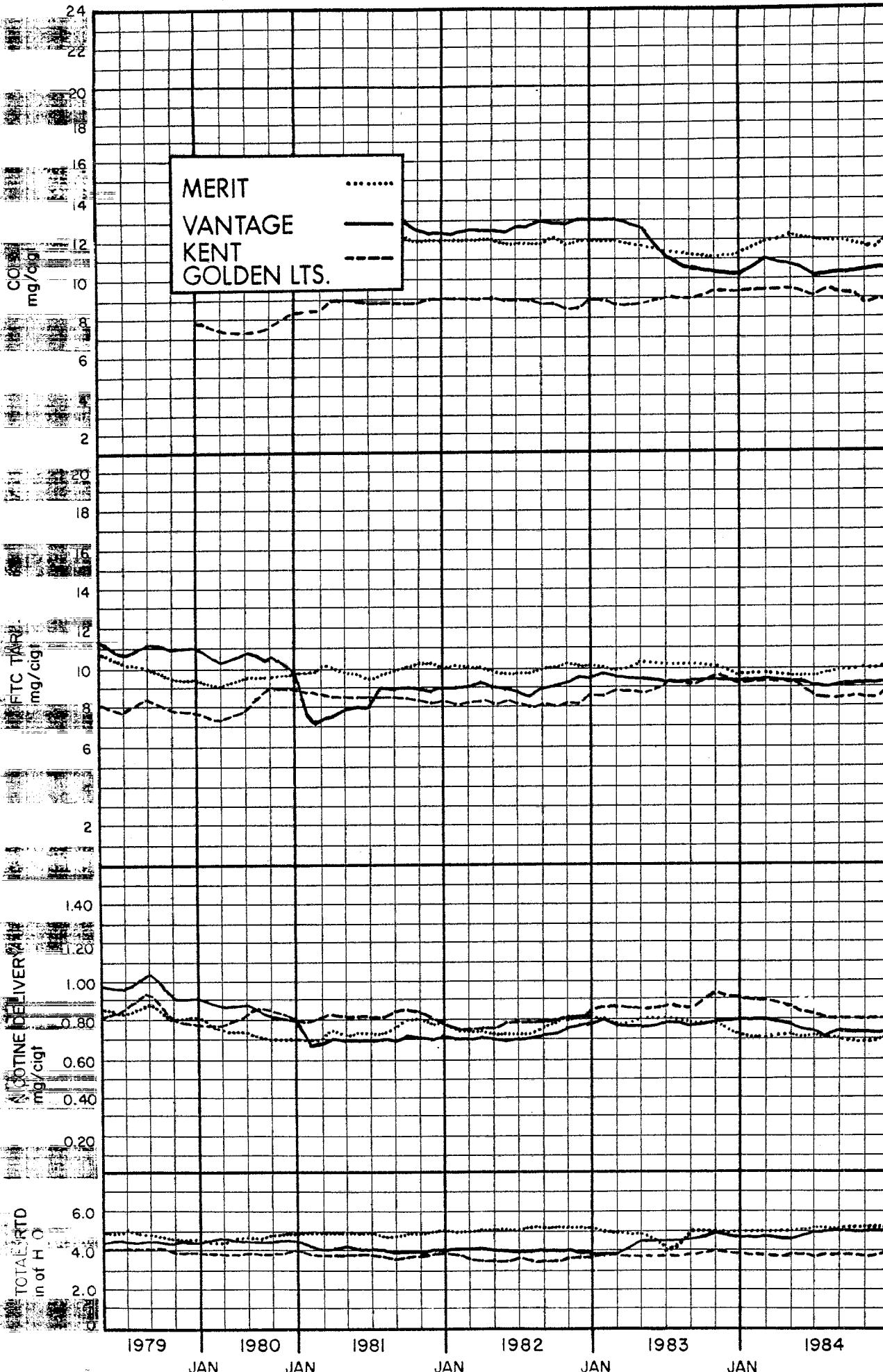
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D. LORILLARD COMPANY (continued)KENT 100 (cont.)

Tar (2 mg) and nicotine (0.1 mg) reduced by increasing tipping paper (27 to 30 mm).	1/68
Tar (1 mg) and nicotine (0.1 mg) reduced by a change to a more porous paper.	5/68
RKS decreased (8 to 4%).	10/69
Reconstituted tobacco increased 10 to 17%.	10/70
Fiber shape changed from X-shape to Y-shape - Filter weight decreased - Tar increased (1 mg).	9/71
Reconstituted tobacco increased 16 to 18% - RKS decreased 6 to 2%.	9/71
RKS decreased 2 to 0%.	10/71
Alkaloids and reducing sugars increased - Nicotine delivery increased (0.1 mg).	5/72
Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, puff count, and higher total RTD - Also, lower tar and nicotine deliveries noted.	12/72
Tipping paper length increased 30 to 32 mm - tar (1 mg) and nicotine (0.1 mg) decreased.	11/74
Cigarette length (99.2 to 98.3 mm) decreased. Tobacco weight (0.87 to 0.84 g) decreased.	5/75
Filter length (25 to 27 mm) increased. No change in smoke deliveries.	6/75
Cigarette length increased (98.9 to 99.3 mm).	8/76
Lower tar (19 to 15 mg) and nicotine (1.3 to 1.1 mg) resulted from a change to a more efficient filter (42-52%) and more porous cigarette paper. Higher total and filter RTD's noted.	6/77
Lower tar delivery (15 to 13 mg) resulting from introduction of filter ventilation (30%). Change to a less efficient filter was also noted. The new ventilated filter is referred as the Micronite II filter.	7/77
Decrease in filter ventilation and change to a less porous cigarette paper resulted in an increase in tar delivery (13.6 to 14.5 mg).	12/77

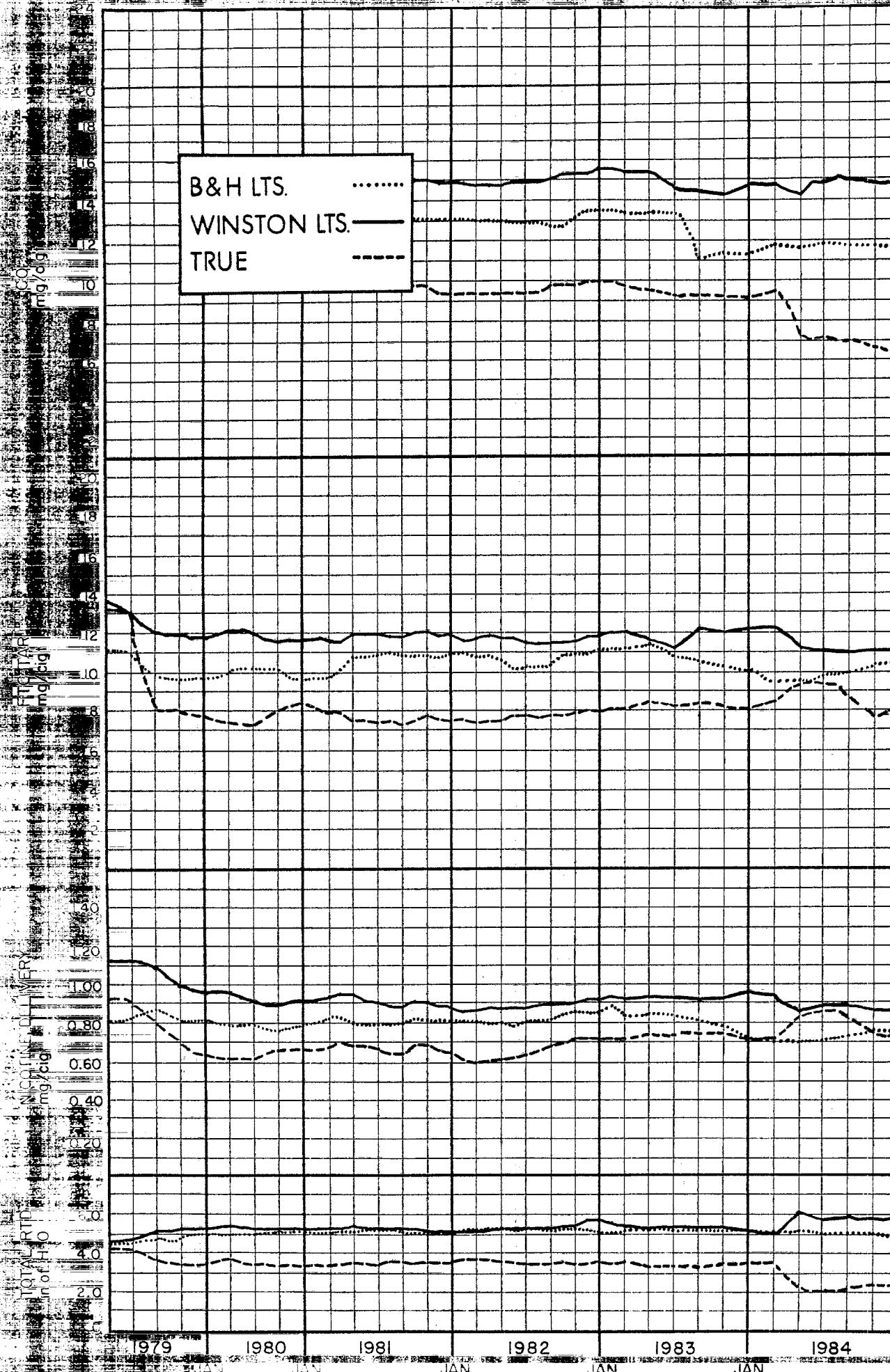
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100's: MERIT, VANTAGE, KENT GOLDEN LIGHTS



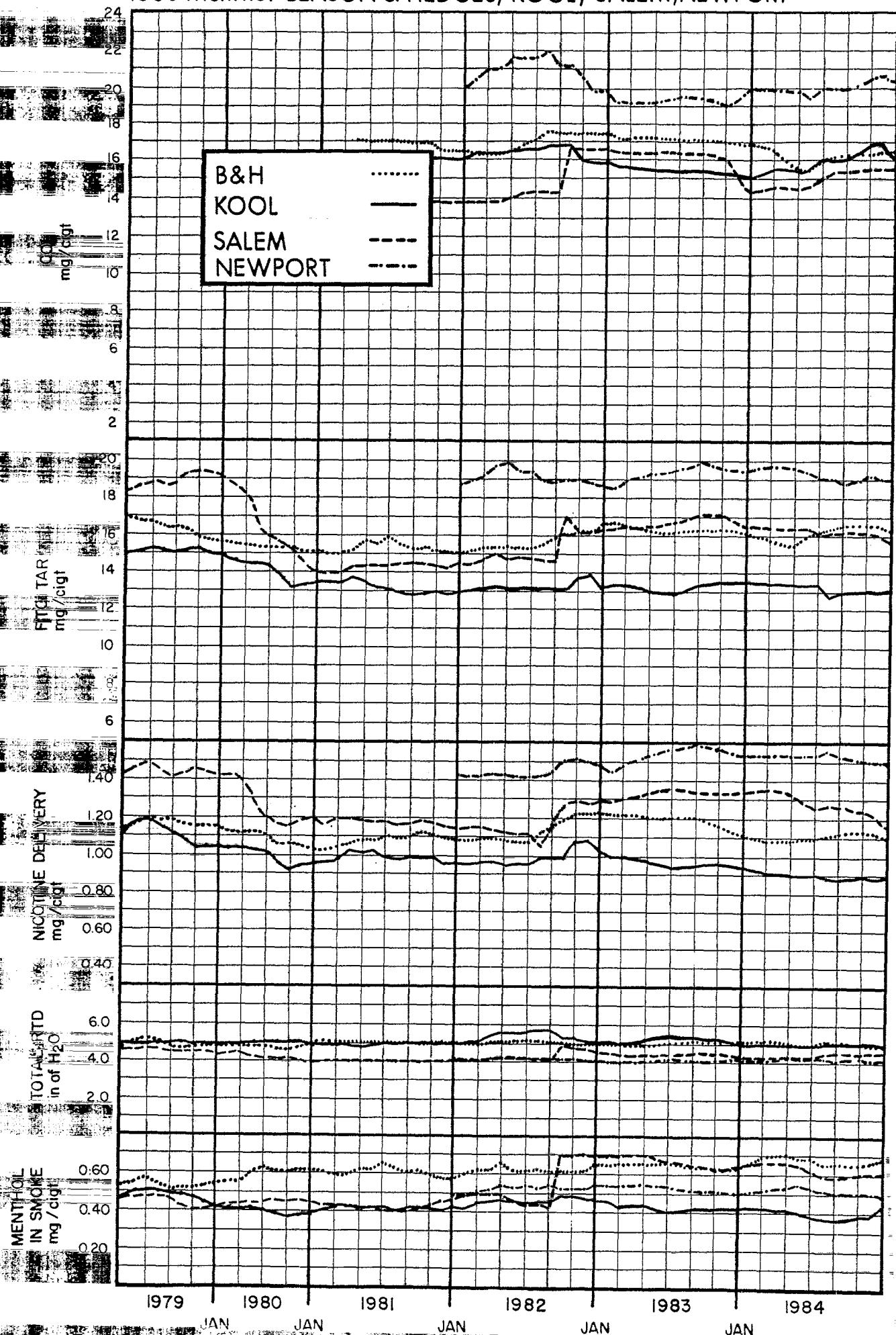
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100's BENSON & HEDGES LTS, WINSTON LTS, TRUE

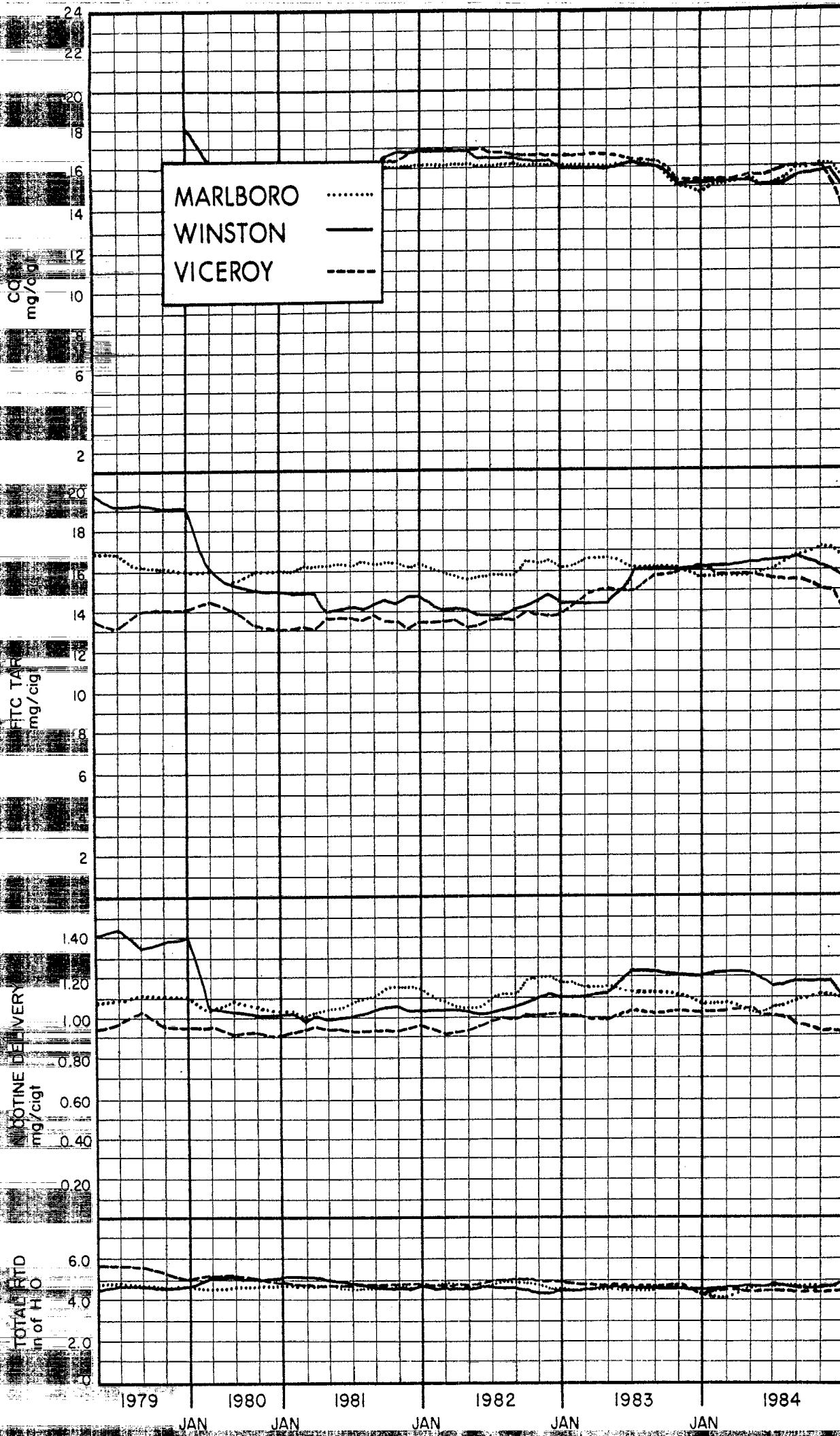


2050081268

100's Menthol: BENSON & HEDGES, KOOL, SALEM, NEWPORT



King Filter: Plain MARLBORO, WINSTON, VICEROY



2050081259

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)VANGUARD MENTHOL 85

Introduced - test market - mentholated version of
Vanguard 85 - Delivers 14 mg tar.

7/76

VICEROY 85

"Deep Weave," more efficient filter.

8/60

Lighter, slightly less efficient filter resulted in
slight increase in TPM and nicotine delivery.

6/61

Total RTD reduced 20 mm H₂O by changes in plug RTD, rod
circumference, tobacco weight, and paper porosity.

8/62

Filter contains carbowax (5%).

5/63

Filter length has increased from 17 to 20 mm.

8/63

Filler alkaloids increased resulting in a higher
nicotine delivery.

1/64

TPM (3 mg) and nicotine deliveries decreased, a result of
a more porous cigarette paper.

2/64

TPM (2 mg) increased.

6/66

TPM (2 mg) decreased as result of blend change.

8/67

TPM (1 mg) reduced by changes to a more porous paper and
in tipping paper (24 to 25 mm).

4/68

Reconstituted material increased, 6 to 9%.

9/68

Tar increased (1 mg) - Change in paper porosity (11 to
18 seconds) noted.

5/69

Tar (1 mg) and nicotine (0.1 mg) decreased, amount of
paper component in cigarette paper increased.

7/69

RKS increased (11 to 14%).

10/69

RKS increased (13 to 18%).

10/70

Addition of expanded RKS to blend replacing portion of
regular RKS.

3/72

Tipping paper length increased 25 to 26 mm - No other
changes.

7/73

205088131

B. BROWN AND WILLIAMSON TOBACCO COMPANYARCTIC LIGHTS 85

Test marketed - 85 mm cigarette delivering 9 mg tar and 0.7 mg nicotine. High alkaloid blend containing 14% expanded stems - 25 mm CA filter with 33% ventilation.

9/78

ARCTIC LIGHTS 100

Test marketed - 100 mm cigarette delivering 10 mg tar and 0.8 mg nicotine. High alkaloid blend containing 14% expanded stems - 27 mm CA filter with 39% ventilation.

9/78

AVALON 85

Introduced - test market - king size, triple filter, in soft pack.

7/63

BARCLAY 80 (BOX)

Test marketed - ultra low tar (3.2 mg) - 27 mm CA filter containing 64% ventilation-blend contains 11% reconstituted tobacco, 18% expanded tobacco and 11% expanded stems.

10/80

Tar (3.0 to 1.3 mg), nicotine (0.17 to 0.08 mg) and CO (3.0 to 1.2 mg) reduced as result of increase in filter ventilation (66 to 84%) - rows of (MP) holes increased (2 to 3) - elimination of reconstituted tobacco, expanded stems - increase in expanded tobacco (17 to 36%) - lower tobacco weight (0.582 to 0.520 g) - increase in total alkaloids (1.71 to 2.67%).

2/81

BARCLAY ULTRA LIGHTS 80 (BOX)

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 80 - similar to Barclay 80 in most characteristics.

11/84

BARCLAY 85

Test marketed - ultra low tar (2.5 mg) - 27 mm CA filter with 77% filter ventilation-blend contains 32% expanded tobacco and no reconstituted tobacco or expanded stems.

9/80

BARCLAY MENTHOL 85

Introduced - nationally - 85 mm mentholated cigarette. Tar (1.4 mg) and nicotine (0.11 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 85.

7/81 2050081295

BARCLAY ULTRA LIGHTS 85

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 85 - similar to Barclay 85 in most characteristics.

11/

E. REYNOLDS TOBACCO COMPANY (continued)WINSTON LIGHTS 85 (cont.)

Filter length increased (25 to 26 mm). 10/82
 Test marketed pack containing 12 cigarettes per pack. 3/83
 Filter (26 to 27 mm) and tipping paper (30 to 31 mm) lengths increased - rod density increased (0.244 to 0.249 g/cc) - Ventilation system changed from one row laser to one row mechanical perforation. Total and filter RTD increased. 9/83
 Tar (9 to 11 mg), nicotine (0.7 to 0.9 mg) and CO (9 to 11 mg) increased - decreased ventilation (32 to 24%). Less porous paper (17 to 24 sec.) - ventilation changed from mechanical to electrostatic perforation. 1/84

WINSTON ULTRA 85

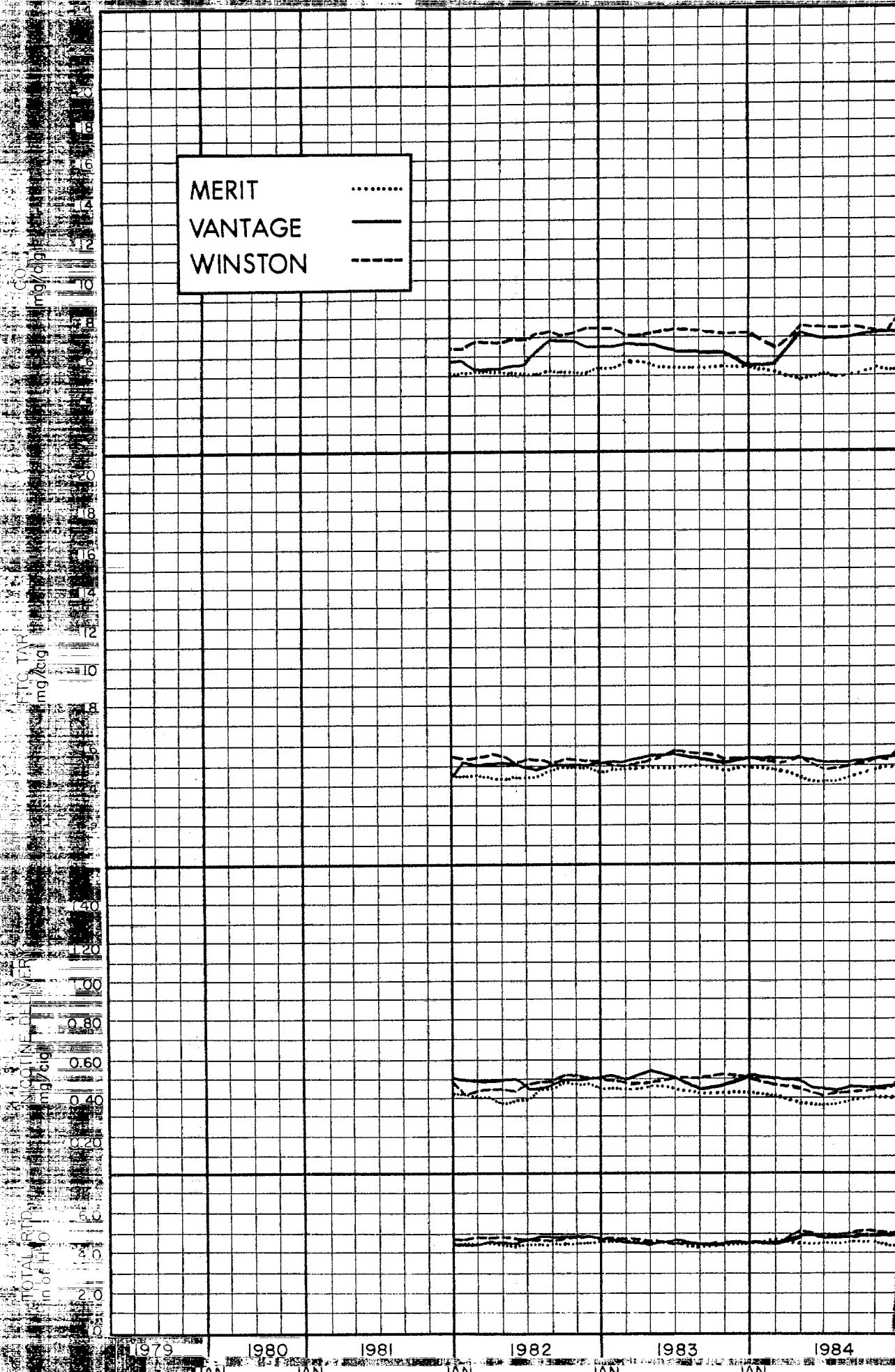
Test marketed - ultra low tar (3 mg) with a 25 mm CA filter and 60% filter ventilation - blend contains 25% expanded tobacco 10/80
 Tar (3.4 to 4.6 mg), nicotine (0.39 to 0.46 mg), and CO (4.0 to 5.5 mg) increased - lower filter ventilation (59 to 55%) - lower filter RTD (4.5 to 3.8), tobacco weight (0.645 to 0.609 mg) and rod density (0.222 to 0.209 g/cc) - increase in expanded tobacco (23 to 34%). 2/81
 Name changed to Winston Ultra Lights 85. 12/81

WINSTON ULTRA LIGHTS 85

Name changed from Winston Ultra 85. The tipping paper was changed from white to cork. 12/81
 Tar (4.9 to 5.4 mg) and CO (4.4 to 6.3 mg) increased. A higher total and filter RTD were observed. Ventilation system changed from 2 to 1 row of mechanical perforation, lower ventilation noted (51 to 44%). 5/82
 Tobacco weight (0.594 to 0.638 g) and rod density (0.206 to 0.220 g/cc) increased - decreased amount of expanded tobacco (30 to 20%). 8/82
 Filter length increased (25 to 26 mm) - CO delivery increased (6.0 to 7.6 mg) due to change to less porous paper (17 to 23 sec.) - paper component increased (0.8 to 1.6%). 3/83
 Filter length (26 to 27 mm) increased rod density decreased (0.216 to 0.211 g/cc). 9/83
 Tipping paper length decreased (32 to 31 mm). 1/84

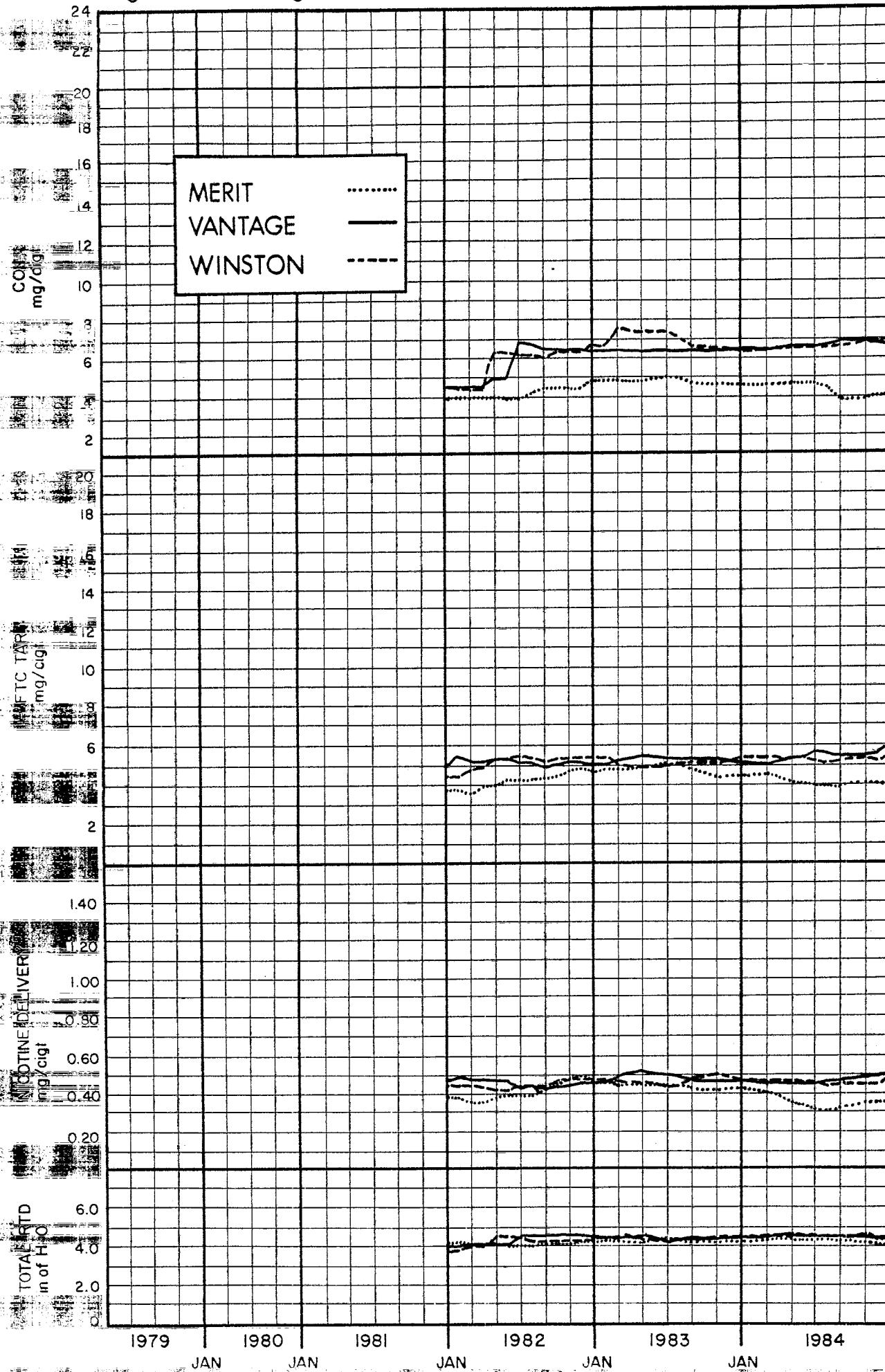
2050081367

100's Ultra Lights: MERIT, VANTAGE, WINSTON



2050081274

King Filter: Ultra Lights: MERIT, VANTAGE, WINSTON



2050081275

PLEASE NOTE

THE APPENDIX SECTION WHICH INCLUDES THE SUMMARY OF BRAND CHANGES, THE DESCRIPTION OF DATA REPORTED, AND EXPERIMENTAL PROCEDURES HAS BEEN UPDATED IN THIS REPORT.

PLEASE RETAIN THIS COPY FOR A REFERENCE AS THESE SECTIONS WILL NOT BE INCLUDED AGAIN UNTIL JULY, 1985. THIS WILL SAVE A CONSIDERABLE AMOUNT OF PAPER AND EFFORT BY NOT INCLUDING THE APPENDIX SECTION IN EACH MONTH'S REPORT.

THE SUMMARY OF COMPETITIVE BRAND CHANGES IS ARRANGED ALPHABETICALLY BY COMPANY. ALSO, THE BRANDS ARE LISTED ALPHABETICALLY FOR YOUR CONVENIENCE IN LOCATING A SPECIFIC BRAND.

2050081276

APPENDIXSUMMARY OF COMPETITIVE BRAND CHANGES OBSERVED SINCE APRIL, 1960A. AMERICAN BRANDSAMERICAN BRAND 80

80 mm - Test marketed in hard box (80 mm) - No unusual characteristics.

4/71

AMERICAN BRAND 85

85 mm - Test marketed in soft pack (85 mm) - No unusual characteristics.

4/71

AMERICAN LIGHTS 120

Plain - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (8 mg) lower than any 120 mm entry to date.

4/76

AMERICAN LIGHTS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (9 mg) lower than any 120 mm entry to date.

4/76

AMERICAN LONGS 120

Plain - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (19 mg) and nicotine (1.5 mg) deliveries.

9/75

AMERICAN LONGS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (16 mg) and nicotine (1.3 mg) deliveries.

9/75

AMERICAN OVALS 100

100 mm cigarette with 25 mm CA filter made like a normal cigarette and pressed into its oval shape.

6/69

BERMUDA 85

Test marketed - king size - 20 mm CA filter, high TPM, low RTD.

5/65

BRIGHTON 85

Test marketed - king size - dual filtered mentholated - similar to Montclair.

4/65

205081277

A. AMERICAN BRANDS (continued)BRIGHTON CONVERTIBLE MENTHOL 100

Same as Tennyson Menthol 100 - Introduced in test market. 4/68

BRIGHTON PINCH MENTHOL 100

Similar to previously introduced Brighton Convertible Menthol 100 and Tennyson Menthol 100. 11/68

BULL DURHAM 85

Introduced - king size with larger circumference than normal cigarettes - 20 mm CA filter. 6/66

CARLTON 70

70 mm cigarette with 25 mm CA filter - Tar (0.7 mg), nicotine (0.15 mg). Data noted on pack "Tar" = 3 mg - Nicotine = 0.3 mg. 5/69

Increased filter ventilation, a more porous cigarette paper and a smaller circumference lowered tar to 1 mg and nicotine to 0.1 mg deliveries. 1/76

Expanded tobacco introduced at 35% level; reconstituted tobacco level decreased (25 to 18%). 9/76

CARLTON 85

Introduced - king size, dual filter with paper inner filter containing 3 mg of carbon - paper perforated immediately in front of tipping paper - TPM (8 mg), nicotine (0.5 mg) - Package label states: "Tar" = 2.5 mg, Nicotine = 0.4 mg. 1/64

TPM and nicotine reduced by changing to filter ventilation - Package label states: "Tar" = 2.7 mg, Nicotine = 0.3 mg. 5/64

TPM (3 mg) and nicotine (0.2 mg) increased - less efficient filter - Package label states: "Tar" = 3.9 mg and Nicotine = 0.4 mg. 10/64

TPM and nicotine deliveries increased by changing filter ventilation - "Tar" and nicotine data no longer stated on label. 1/65

TPM, nicotine and organic gas phase deliveries increased - Changes observed in total RTD, fiber denier and tobacco weight - Alkaloids increased slightly. 5/65

Total RTD decreased. 4/66

2050081278

A. AMERICAN BRANDS (continued)CARLTON 85 (continued)

TPM and nicotine decreased - Filter efficiency increased as result of fiber denier changed. 5/66

"Tar" and nicotine data stated on package label. "Tar" = 9.5 mg and nicotine = 0.6 mg. 6/66

TPM and nicotine decreased, 3 mg and 0.1 mg by increasing ventilation. Data on pack changed - "Tar" = 9 mg and nicotine = 0.6 mg. 10/66

Data on pack changed - "Tar" = 7 mg and Nicotine = 0.5 mg. 4/67

Tar (2 mg) and nicotine (0.2 mg) decreased by increase in filter ventilation. 10/67

Tar (1 mg) and nicotine (0.1 mg) increased by changes in fiber shape and fiber denier. 12/67

A model of Carlton with 25 mm CA filter introduced with tar of 2.0 mg. 2/69

Filter change from 20 mm dual filter to 25 mm CA filter. 7/69

Tar (4 to 1 mg) and nicotine (0.4 to 0.2 mg) reduced by increased filter ventilation and lowering tobacco weight - Expanded tobacco content increased from 0 to 42%. 3/76

CARLTON 85 (BOX)

Cigarettes packaged in a flip top box to replace the 70 mm Carlton cigarettes already on the market. Similar to Carlton 85 soft pack cigarettes. Tar (1 mg) and nicotine (0.1 mg) listed on pack. 1/77

Tar (<1.0 to <0.01 mg) and nicotine (0.1 to 0.002 mg) data listed on pack changed as indicated. 3/81

Ventilation was changed from four to six rows of laser perforation. Paper porosity changed from 14 to 7 sec. Both tar and nicotine deliveries of these cigarettes remains at 0.00 mg. 8/81

CARLTON MENTHOL 85

Introduced - Mentholated version of Carlton 85 plain. 1/72

Tar (4 to 1 mg) and nicotine (0.4 to 0.1 mg) reduced by increased filter ventilation and lowering tobacco weight - Expanded tobacco content increased from 0 to 45%. 2/76

CARLTON 100'S

National distribution - low tar (6 mg) and nicotine (0.5 mg) achieved by a 27 mm CA filter containing ventilation (52%). A low tobacco weight and rod density resulted from high ET content (35%). Tar (5 mg) and nicotine (0.5 mg) listed on pack. 4/77

Lower tar (5.9 to 4.4 mg) and nicotine (0.5 to 0.4 mg) deliveries resulted from a change to a more porous cigarette paper. 11/77

A. AMERICAN BRANDS (continued)CARLTON 100 (BOX)

Introduced - Tar (0.8 mg) and nicotine (0.08 mg) - Ultra low delivery result of high filter ventilation (84%). 4/80

CARLTON MENTHOL 100 (Box)

Introduced in Texas - Tar (1.0 mg) and nicotine (0.1 mg) - similar to Carlton 100 (Box). 1/82

CARLTON MENTHOL 100

Introduced on test market - Low delivery (4 mg tar and 0.4 mg nicotine) mentholated cigarettes similar to Carlton 100 cigarettes previously introduced. Blend contains 33% ET. 11/77

CARLTON SLIMS DELUXE 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine. 1/84

CARLTON SLIMS DELUXE MENTHOL 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine. 1/84

CARLTON 120

Introduced - test market - Tar (7.2 mg) and nicotine (0.61 mg). The blend contains 34% expanded tobacco - ventilation system consists of two rows of laser perforation. 7/81

CARLTON MENTHOL 120

Introduced - test market - Tar (6.4 mg) and nicotine (0.59 mg). The ventilation system consists of two rows of laser perforation. 8/81

Tar (5.9 to 7.4 mg), nicotine (0.57 to 0.77 mg), and CO (4.5 to 6.6 mg) increased - ventilation (37 to 28%) decreased. 11/82

COLD HARBOR 85

Introduced - king size in soft pack - similar to Waterford with menthol added to filler. 6/66

COLONY FILTER 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter. 9/66

COLONY MENTHOL 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter. 9/66

COLONY FILTER 100

Introduced - 100 mm cigarette with 20 mm CA filter. 5/67

2050081280

A. AMERICAN BRANDS (continued)COLONY MENTHOL 100

Introduced - 100 mm cigarette with 20 mm CA filter.

5/67

COMPASS 85

Test marketed - king size mentholated - 20 mm CA filter.

6/65

DOUBLE EIGHT 88

Double Eight, 88 mm long, replaced Pall Mall 88 on the market - Packaged in a black and white striped pack.

7/68

FIFTY-FIFTY 100

Introduced - 100 mm cigarette with 45 mm CA filter.

2/67

Tar (5 mg) and nicotine (0.2 mg) increased by changes in cigarette paper.

10/67

FRESH CONVERTIBLES 100

Similar to Tennyson Convertible Menthol 100, plug-space-plug filter, with capsules containing menthol and carbon granules in space.

9/69

H. TAREYTON 85 (NF)

Removed from C.I. tables. History of brand in C.I. 5/64.

11/63

HALF & HALF 85

Introduced - king size in soft pack with "pipe tobacco blend".

5/64

ICEBERG 10 MENTHOL 85

Low delivery (10 mg tar and 0.8 mg nicotine) with new Filtrona filter - Mentholated cigarette. Blend contains expanded tobacco (4%) and expanded RKS (3%).

5/72

ICEBERG MENTHOL 100

Test marketed - 100 mm mentholated cigarette with a 30 mm "Filtrona-type" filter similar to the one used on Lucky Ten 100. Blend contains expanded tobacco and stems.

2/74

Cigarette re-engineered - Tar (10 to 5 mg) and nicotine (0.7 to 0.3 mg) decreased. Filtrona-type filter replaced by standard CA filter with 47% ventilation.

7/76

LTC 85

LTC (low tar cigarette) - similar to Lucky Ten in all characteristics.

8/71

LONG JOHNS 120

Introduced 120 mm cigarette with brown paper colored with azo dyes. Circumference 22.5 mm. Tar (20 mg) and nicotine (1.7 mg) deliveries.

5/75

2050008424

A. AMERICAN BRANDS (continued)LONG JOHNS MENTHOL 120

Introduced 120 mm menthol cigarette with brown paper colored with azo dyes. Circumference 22.5 mm. Tar (17 mg) and nicotine (1.4 mg) deliveries.

5/75

LUCKY 100'S

Introduced - Similar to previously marketed Lucky Ten 100 - 30 mm "Filtrona" filter.

6/74

Cigarette re-engineered - Tar (10 to 5 mg) and nicotine (0.8 to 0.4 mg) decreased. Filtrona-type filter replaced by standard CA filter with 47% ventilation.

7/76

LUCKY FILTERS 100

Introduced - 100 mm cigarette with a 20 mm dual filter; 10 mm crimped tobacco with carbon and 10 mm CA filter.

3/67

Filter length (20 to 25 mm) increased, tar lower by 1 mg.

7/68

Name changed - Lucky Strike 100 to Lucky Filters 100.

8/68

Coupon added to pack.

6/69

Filter change from 25 mm dual filter to 25 mm CA filter, cigarette paper porosity change (12 to 21 seconds), tar (1 mg) and nicotine (0.1 mg) increased.

9/69

Reconstituted tobacco decreased (20 to 15%).

10/69

LUCKY FILTERS (POLYMER) - 85

85 mm version of Lucky Filters, with a new polymer filter, was introduced. The twenty-five (25) mm filter consists of a CA-space-CA (10-5-10) with the space containing approximately 100 mg of polyethylene and alumina.

9/68

LUCKY FILTERS (POLYMER) - 100

100 mm version of Lucky Filters, with a new polymer filter, was introduced. The twenty-five (25) mm filter consists of a CA-space-CA (10-5-10) with the space containing approximately 100 mg of polyethylene and alumina.

9/68

2050081282

A. AMERICAN BRANDS (continued)LUCKY STRIKE 70 (NF)

Paper porosity and paper component increased - TPM reduced by 5 mg.	1/62
TPM increased by 2 mg.	7/62
TPM increased by 1 mg.	12/62
TPM decreased by 1.5 mg.	6/63
TPM decreased by 2 mg by changing paper component and porosity.	5/64
Reconstituted tobacco content increased (7 to 11%).	4/66
Circumference and tobacco weight decreased.	9/66
TPM and nicotine increased, 6 mg and 0.2 mg respectively, by changing paper component, citrate to phosphate, and decreasing paper porosity.	10/66
Reconstituted material increased 9 to 12%.	9/68
Reconstituted material increased 12 to 17%.	10/70
Expanded tobacco added to blend (4%).	1/72
Expanded tobacco increased 4 to 6%.	1/74
Lower tar (1 mg) and nicotine (0.1 mg) correlating with a lower filler rod TPM.	11/75
Tar delivery (27 to 25 mg) decreased by increase in paper porosity.	2/76

LUCKY STRIKE FILTER 80

Plain - Test marketed in a soft pack - First 80 mm cigarette in a soft pack in the U.S. - High tar (26 mg) and nicotine (1.6 mg) correlating with a low filtration efficiency.	12/75
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LUCKY STRIKE FILTER 85

Test marketed - king size triple filter (CA; carbon on CA; CA) - filter has gas phase activity.	8/64
Test marketed with 20 mm CA filter - high TPM.	11/64
TPM (2 mg) and nicotine (0.1 mg) decreased by increase in filter efficiency.	11/66
TPM (2 mg) and nicotine (0.1 mg) decreased by increase in paper porosity.	12/66
TPM reduced by a filter change from single CA to dual filter - Dual filter consisted of inner filter made from crimped tobacco sheet with embedded carbon and an outer CA filter.	9/67
Change from 20 mm dual filter to 20 mm CA filter.	8/69
Reconstituted tobacco increased (14 to 18%).	4/70
Tar (3 mg) and nicotine (0.3 mg) increased as result of blend change.	5/70

2050081283

A. AMERICAN BRANDS (continued)LUCKY STRIKE 85

Introduced - test market - delivers 11.6 mg tar and 0.94 mg nicotine. The cigarette length is 83 mm. American Brands has no other 85 mm cigarette in the 10-12 mg tar category.

11/81

LUCKY STRIKE 85 (BOX)

Introduced - test market - delivers 11.2 mg tar and 0.88 mg nicotine. The ventilation consists of one row of laser perforation. The cigarette length is 83 mm. American Brands has no other 85 mm cigarette in the 10-12 mg tar category.

11/81

LUCKY STRIKE MENTHOL 85

Introduced - 85 mm mentholated cigarette with 20 mm CA filter.

6/66

LUCKY STRIKE MENTHOL 100

Introduced - 100 mm mentholated cigarette with 20 mm CA filter.

4/67

TPM (2 mg) and nicotine (0.2 mg) decreased by changing to a more porous paper.

5/67

Filter length (20 to 25 mm) increased, tar lower (1 mg).

7/68

LUCKY STRIKE LIGHTS 85

Introduced - deliveries 7 mg tar - has the shortest cigarette length of any king size cigarette in a soft pack.

11/83

LUCKY STRIKE LIGHTS 100

Introduced - delivers 9 mg tar.

11/83

LUCKY TEN 85

Low delivery (10 mg tar and 0.8 mg nicotine) with new Filtrona filter - Blend contains expanded tobacco (5%).

8/71

A decrease in tar (9 to 8 mg) resulting from a change in filters from a 25 mm Filtrona-type filter to a 25 mm standard CA filter containing ventilation (35%). Lower total RTD noted.

4/77

2050081284

A. AMERICAN BRANDS (continued)LUCKY TEN 100

Test marketed - 30 mm Filtrona filter with triangular openings at each end and constricted in the middle. 5% expanded tobacco. Tar (9 mg) and nicotine (0.9 mg) listed on pack.

4/73

MARYLAND 100

100 mm cigarette with 100% air-cured tobacco - No RKS or reconstituted material.

3/70

MARYLAND MENTHOL 100

100 mm mentholated cigarette with 100% air-cured tobacco - Contains no reconstituted material or RKS.

10/70

MERMAID MENTHOL 100

Test marketed - 25 mm CA filter - Blend contains RKS which has been processed to give an expanded appearance.

11/71

MONTCLAIR 85

Introduced - mentholated, dual filter, carbon section - released menthol, which is concentrated there, as TPM is picked up - has no gas phase activity.

3/62

TPM, nicotine, and menthol deliveries increased.

8/62

Paper component identified as chloride type.

4/63

TPM and nicotine deliveries increased by changing filter ventilation - "Tar" and nicotine data no longer stated on label.

1/64

TPM reduced 7 mg as result of a new filter and filter ventilation - Package label states: "Tar" = 5.2 mg, Nicotine = 0.5 mg.

5/64

TPM reduced 5 mg. Nicotine delivery also decreased, RTD increased. TPM reduced 4 mg by changing paper component and porosity.

6/64

Carbon type changed, coconut to coal.

10/64

TPM (4 mg) and nicotine (0.2 mg) increased, less efficient filter - Package label states: "Tar" = 6.9 mg, Nicotine = 0.7 mg.

11/64

Menthol content and delivery increased.

8/65

Menthol content and delivery increased.

7/66

TPM (2 mg) decreased by increasing filter ventilation.

5/67

2050081283

A. AMERICAN BRANDS (continued)MONTCLAIR 85 (continued)

TPM (4 mg) and nicotine (0.2 mg) decreased by changes in filter ventilation, filter efficiency, and paper porosity.	6/67
Coupon added to pack.	9/67
Circumference decreased (25.2 to 24.9 mm); lower tobacco weight noted.	12/68
Reconstituted tobacco content increased (20 to 36%).	4/69
Change from 20 mm dual filter to 20 mm CA filter.	8/69
Reconstituted tobacco decreased (36 to 28%).	10/69
Tar (6 mg) and nicotine (0.5 mg) increased by elimination of filter ventilation, change to less porous paper.	
Reconstituted tobacco decreased (28 to 19%).	4/70
Reconstituted tobacco increased (19 to 25%).	9/71
Expanded tobacco added to blend (3%) - Higher filler menthol and menthol delivery noted.	2/73
Expanded stems added to blend (12%) and reconstituted material decreased from 17 to 8% - No change in smoke deliveries.	3/73
Expanded tobacco removed from blend. Tar (1 mg) and nicotine (0.1 mg) decreased - Alkaloids and sugars lower.	2/75

PALL MALL 85 (NF)

Paper porosity and RTD increased; TPM and nicotine deliveries reduced (3 mg and 0.1 mg).	4/63
Nicotine delivery reduced slightly.	6/63
TPM and nicotine reduction, 6 mg and 0.2 mg respectively, by changing paper component, phosphate to citrate, and increasing paper porosity.	1/64
TPM and nicotine increased, 7 mg and 0.3 mg respectively, by changing paper component, citrate to phosphate, and decreasing paper porosity.	10/66
Reconstituted material increased, 9 to 12%.	4/67
TPM (6 mg) and nicotine (0.2 mg) decreased by changing paper additive and increasing paper porosity.	5/67
Expanded tobacco added to blend (2%).	1/73
Expanded tobacco increased from 2 to 6%.	1/74
Expanded stems added to blend (3%).	9/75
Lower tar (1 mg) and nicotine (0.1 mg) correlating with a lower filler rod TPM.	11/75
Lower tar (25 to 23 mg) and nicotine (1.5 to 1.4 mg) deliveries resulting from a change to a more porous cigarette paper.	6/79
Cigarette length (84.8 to 83.7 mm) decreased.	8/82

2050081286

A. AMERICAN BRANDS (continued)PALL MALL 88

Pall Mall cigarettes, 88 mm long, introduced in white pack with gold lettering.

5/68

PALL MALL 100

Plain - Test marketed in new air tight hermetically sealed "polyfoil pak."

10/74

Freon expanded tobacco has been added at the 9% level resulting in a lower tobacco weight (0.905 to 0.865 g).

7/81

PALL MALL MENTHOL 100

Menthol - Test marketed in new air tight hermetically sealed "polyfoil pak."

10/74

PALL MALL EXTRA MILD 80

Low delivery (9 mg tar and 0.7 mg nicotine) with new Filtrona molded filter - Blend contains expanded tobacco (4%) - Similar to Lucky Ten 85 in most characteristics.

7/72

PALL MALL EXTRA LIGHT 85

85 mm cigarette similar to 80 mm version previously introduced in 7/72.

8/72

Tar (6 mg) and nicotine (0.7 mg) decreased - Filtrona filter with no ventilation was replaced by a standard CA filter with 45% ventilation. Tobacco weight and rod density were higher as result of elimination of ET from blend.

6/76

Brand name changed from Pall Mall Extra Mild 85 to Pall Mall Extra Light 85. No changes in smoking or physical characteristics. Tar delivery listed on pack as "7 mg or Less".

4/78

PALL MALL FILTER 80 (BOX)

Test marketed in hard box (80 mm) - Tar (19 mg) and nicotine (1.2 mg) deliveries.

5/71

Reintroduced - plain - test marketed in a red flip top box similar in color and design to the soft pack used for Pall Mall 85 Nonfilter cigarettes - High tar (24 mg) and nicotine (1.5 mg) deliveries correlating with a low filtration efficiency.

12/75

A. AMERICAN BRANDS (continued)CARLTON 100 (BOX)

Introduced - Tar (0.8 mg) and nicotine (0.08 mg) - Ultra low delivery result of high filter ventilation (84%). 4/80

CARLTON MENTHOL 100 (Box)

Introduced in Texas - Tar (1.0 mg) and nicotine (0.1 mg) - similar to Carlton 100 (Box). 1/82

CARLTON MENTHOL 100

Introduced on test market - Low delivery (4 mg tar and 0.4 mg nicotine) mentholated cigarettes similar to Carlton 100 cigarettes previously introduced. Blend contains 33% ET. 11/77

CARLTON SLIMS DELUXE 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine. 1/84

CARLTON SLIMS DELUXE MENTHOL 100 (BOX)

National distribution-delivers 7 mg tar and 0.6 mg nicotine. 1/84

CARLTON 120

Introduced - test market - Tar (7.2 mg) and nicotine (0.61 mg). The blend contains 34% expanded tobacco - ventilation system consists of two rows of laser perforation. 7/81

CARLTON MENTHOL 120

Introduced - test market - Tar (6.4 mg) and nicotine (0.59 mg). The ventilation system consists of two rows of laser perforation. 8/81

Tar (5.9 to 7.4 mg), nicotine (0.57 to 0.77 mg), and CO (4.5 to 6.6 mg) increased - ventilation (37 to 28%) decreased. 11/82

COLD HARBOR 85

Introduced - king size in soft pack - similar to Waterford with menthol added to filler. 6/66

COLONY FILTER 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter. 9/66

COLONY MENTHOL 85

Introduced - One of the first American Tobacco brands with coupons - 20 mm CA filter. 9/66

COLONY FILTER 100

Introduced - 100 mm cigarette with 20 mm CA filter. 5/67

2050081280

B. BROWN AND WILLIAMSON TOBACCO COMPANYARCTIC LIGHTS 85

Test marketed - 85 mm cigarette delivering 9 mg tar and 0.7 mg nicotine. High alkaloid blend containing 14% expanded stems - 25 mm CA filter with 33% ventilation.

9/78

ARCTIC LIGHTS 100

Test marketed - 100 mm cigarette delivering 10 mg tar and 0.8 mg nicotine. High alkaloid blend containing 14% expanded stems - 27 mm CA filter with 39% ventilation.

9/78

AVALON 85

Introduced - test market - king size, triple filter, in soft pack.

7/63

BARCLAY 80 (BOX)

Test marketed - ultra low tar (3.2 mg) - 27 mm CA filter containing 64% ventilation-blend contains 11% reconstituted tobacco, 18% expanded tobacco and 11% expanded stems.

10/80

Tar (3.0 to 1.3 mg), nicotine (0.17 to 0.08 mg) and CO (3.0 to 1.2 mg) reduced as result of increase in filter ventilation (66 to 84%) - rows of (MP) holes increased (2 to 3) - elimination of reconstituted tobacco, expanded stems - increase in expanded tobacco (17 to 36%) - lower tobacco weight (0.582 to 0.520 g) - increase in total alkaloids (1.71 to 2.67%).

2/81

BARCLAY ULTRA LIGHTS 80 (BOX)

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 80 - similar to Barclay 80 in most characteristics.

11/84

BARCLAY 85

Test marketed - ultra low tar (2.5 mg) - 27 mm CA filter with 77% filter ventilation-blend contains 32% expanded tobacco and no reconstituted tobacco or expanded stems.

9/80

BARCLAY MENTHOL 85

Introduced - nationally - 85 mm mentholated cigarette. Tar (1.4 mg) and nicotine (0.11 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 85.

7/81 2050081295

BARCLAY ULTRA LIGHTS 85

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 85 - similar to Barclay 85 in most characteristics.

11/

CIGARETTES ON MARKET WITH TAR AND NICOTINE DATA LISTED ON PACK

	Tar, mg/cig.t.			Nicotine, mg/cig.t.		
	Listed On Package	FTC Data ¹	CI Data	Listed On Package	FTC Data ¹	CI Data
AMERICAN						
Carlton 85 (Box)	<0.01	<0.5	0.00	0.002	<0.05	0.00
Carlton Menthol 85	<1	1	1	0.1	0.1	0.1
Carlton 100 (Box)	<1	1	1	0.1	0.1	0.1
Carlton 85	1	1	2	0.2	0.1	0.2
Iceberg 100's	4	3	4	0.4	0.3	0.3
Carlton Menthol 100	5	5	5	0.5	0.4	0.5
Tareyton Lights 85	5	5	5	*	0.4	0.4
Carlton 100	5	5	5	0.5	0.4	0.4
Pall Mall Extra Light 85	7	7	7	*	0.6	0.6
Carlton Menthol 120	7	6	7	0.7	0.5	0.6
Carlton 120	7	6	7	0.7	0.6	0.6
Lucky Strike Low Tar 85	8	-	8	*	-	0.6
Lucky Strike Low Tar 100	9	-	9	*	-	0.8
LORILLARD						
Triumph Menthol 85	2	3	4	0.3	0.3	0.4
Triumph 85	3	3	3	0.4	0.4	0.4
Triumph Menthol 100	4	4	5	0.5	0.5	0.5
Triumph 100	4	4	5	0.5	0.4	0.5
PHILIP MORRIS						
Cambridge 83 (Box)	<0.1	<0.5	0.00	*	<0.05	0.00
Cambridge 84	1	1	1	*	0.1	0.1
Merit Ultra Lights 85	4	4	4	0.4	0.3	0.3
Merit Ultra Lights Menthol 85	4	4	4	0.4	0.3	0.3
Cambridge 100	5	5	4	*	0.4	0.4
Merit Ultra Lights 100	5	6	4	0.5	0.5	0.4
Merit Ultra Lights Menthol 100	5	4	4	0.5	0.3	0.3
B & H DeLuxe Ultra Lights 100 (Box)	6	6	6	0.6	0.5	0.4
B & H DeLuxe Ultra Lights Menthol 100 (Box)	6	6	6	0.6	0.5	0.4
Merit 85	8	9	8	0.6	0.6	0.6
Merit Menthol 85	8	9	8	0.6	0.6	0.6
Merit 100	10	11	10	0.8	0.7	0.7
Merit Menthol 100	10	10	10	0.8	0.7	0.7
REYNOLDS						
Now 80 (Box)	<0.5	<0.5	0.00	*	<0.05	0.00
Now 85	1	1	1	*	0.1	0.2
Now Menthol 85	1	1	2	*	0.1	0.2
Vantage Ultra Lights 85	5	5	6	*	0.4	0.5
Vantage Ultra Lights 100	5	5	5	*	0.4	0.4
Vantage Ultra Lights Menthol 85	5	5	5	*	0.4	0.4
Vantage Ultra Lights Menthol 100	5	5	5	*	0.4	0.5
Vantage 85	9	9	9	*	0.7	0.7
Vantage Menthol 85	9	10	9	*	0.7	0.7
Vantage 100	9	9	9	*	0.7	0.7
Vantage Menthol 100	9	-	10	*	-	0.8

¹FTC data published March, 1984.

*Not Listed.

1983

2050081254

A. AMERICAN BRANDS (continued)SILVA THINS MENTHOL 100

100 mm cigarette with small circumference - Similar to Silva Thins Plain in all characteristics except for menthol. 8/68

Blend changed as indicated by higher alkaloids and lower reducing sugars. Filler rod TPM increased (2 mg) and tar delivery increased (1 mg). 9/71

Filter length increased 20 to 25 mm - No change in smoke deliveries. 5/74

Lower tar (15 to 12 mg) and nicotine (1.1 to 1.0 mg) deliveries resulting from introduction of filter ventilation (30%). Increases in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) were also noted. Introduced expanded stem at 3% level. 8/77

Lower tar (12 to 7 mg) and nicotine (1.0 to 0.8 mg) deliveries correlating with a more efficient filter and a lower filler rod TPM. 5/79

Tar (7 to 11 mg) and nicotine (0.8 to 1.0 mg) increased by a decrease in filter ventilation. 8/79

Changed the filter from 27 mm paper to 27 mm CA - Tar (11 to 12 mg) and nicotine (0.9 to 1.1 mg) increased as result of less efficient filter. 5/80

The addition of 4% ET - ES increased from 8 to 16% resulting in a lower tobacco weight. 5/82

SUPER M MENTHOL 100

Test marketed - 100 mm mentholated cigarette in new air tight hermetically sealed "polyfoil pak" - Same pack as used on Safari 100. 5/74

SWEET CAPORAL 85

Introduced - king size with 20 mm CA filter. 10/65

TALL 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter - White stripped cigarette paper - Tar (19 mg) and nicotine (1.4 mg) deliveries. 8/75

Tar (18 to 21 mg), nicotine (1.6 to 1.7 mg), and CO (20 to 21 mg) increased - ventilation reduced (36 to 30%). 9/83

3050081291

A. AMERICAN BRANDS (continued)TALL MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter -
 White striped cigarette paper - Tar (19 mg) and nicotine
 (1.4 mg) deliveries.

8/75

Tar (18 to 20 mg), nicotine (1.6 to 1.7 mg), and CO
 (17 to 21 mg) increased - ventilation decreased (38 to
 31%).

9/83

TAREYTON 85

Paper component now being used, identified as chloride type. 4/63

TPM reduced by 3 mg - Nicotine delivery decreased by 0.1 mg.
 Total and filter RTD increased.

6/63

TPM and nicotine reduced (4 mg and 0.1 mg) - Change in
 paper component and porosity.

2/64

Fiber shape changed, I to cloverleaf.

8/64

Fiber denier changed, 5.0 to 4.0.

11/64

Fiber shape changed, cloverleaf to I.

5/65

Reconstituted tobacco content increased (10 to 14%).

10/65

Tipping paper increased 19 to 24 mm, paper porosity
 increased - TPM unchanged.

2/67

TPM (1 mg) decreased as result of change in filter length -
 Paper porosity decreased 14 to 20 seconds.

4/67

Reconstituted tobacco decreased 20 to 15%.

10/69

Addition of 3% ES to blend.

4/75

Tar decreased (19 to 17 mg) resulting from a change to a
 more porous cigarette paper.

7/76

Freon expanded tobacco introduced to the blend at the 9%
 level resulting in a lower tobacco weight. Change resulted
 in lower tar (16 to 14 mg) and nicotine (1.2 to 1.0 mg)
 deliveries.

8/78

Lower tar (15 to 13 mg) correlating with a higher RTD for
 the inner paper filter.

5/79

2050081292

A. AMERICAN BRANDS (continued)TAREYTON LONG LIGHTS 100

Introduced - 100 mm low tar (8 mg) and nicotine (0.7 mg) cigarette. 27 mm dual filter with filter ventilation (37%) consisting of 17 mm CA outer filter and 10 mm paper inner filter. Inner filter contains carbon granules. Blend contains 7% expanded tobacco.

1/78

Tar (9 to 7 mg) and nicotine (0.8 to 0.7 mg) decreased resulting from an increase in filter ventilation (30 to 47%).

8/79

TAREYTON ULTRA LOW TAR MENTHOL 85

Test marketed - These new cigarettes deliver 2 mg tar and 0.1 mg nicotine - 25 mm CA filter with 75% ventilation and blend containing 34% expanded tobacco.

3/79

TENNYSON MENTHOL 85

Introduced - king size mentholated - carbon portion of dual filter has no gas phase activity.

10/65

TENNYSON MENTHOL 100

100 mm mentholated cigarette - menthol contained in gelatin capsules which release menthol when filter is pinched - similar filter to that in Waterford.

10/67

TWIST 100

Test marketed - 100 mm cigarette with lemon and menthol flavoring. Blend contains 10% expanded stems.

6/73

WATERFORD 80

Introduced - long size in crush proof box - novel filter containing two types of capsules in addition to charcoal - One of the capsule types contains water.

9/65

WATERFORD 85

Introduced - king size in soft pack - novel filter contains only one type capsule containing water - Charcoal also present.

2/66

WHITE LEAF 85

Test marketed - 85 mm filter cigarette with bleached all tobacco wrapper instead of cigarette paper.

6/67

2050081294

A. AMERICAN BRANDS (continued)TAREYTON LONG LIGHTS 100

Introduced - 100 mm low tar (8 mg) and nicotine (0.7 mg) cigarette. 27 mm dual filter with filter ventilation (37%) consisting of 17 mm CA outer filter and 10 mm paper inner filter. Inner filter contains carbon granules. Blend contains 7% expanded tobacco.

1/78

Tar (9 to 7 mg) and nicotine (0.8 to 0.7 mg) decreased resulting from an increase in filter ventilation (30 to 47%).

8/79

TAREYTON ULTRA LOW TAR MENTHOL 85

Test marketed - These new cigarettes deliver 2 mg tar and 0.1 mg nicotine - 25 mm CA filter with 75% ventilation and blend containing 34% expanded tobacco.

3/79

TENNYSON MENTHOL 85

Introduced - king size mentholated - carbon portion of dual filter has no gas phase activity.

10/65

TENNYSON MENTHOL 100

100 mm mentholated cigarette - menthol contained in gelatin capsules which release menthol when filter is pinched - similar filter to that in Waterford.

10/67

TWIST 100

Test marketed - 100 mm cigarette with lemon and menthol flavoring. Blend contains 10% expanded stems.

6/73

WATERFORD 80

Introduced - long size in crush proof box - novel filter containing two types of capsules in addition to charcoal - One of the capsule types contains water.

9/65

WATERFORD 85

Introduced - king size in soft pack - novel filter contains only one type capsule containing water - Charcoal also present.

2/66

WHITE LEAF 85

Test marketed - 85 mm filter cigarette with bleached all tobacco wrapper instead of cigarette paper.

6/67

2050081294

B. BROWN AND WILLIAMSON TOBACCO COMPANYARCTIC LIGHTS 85

Test marketed - 85 mm cigarette delivering 9 mg tar and 0.7 mg nicotine. High alkaloid blend containing 14% expanded stems - 25 mm CA filter with 33% ventilation.

9/78

ARCTIC LIGHTS 100

Test marketed - 100 mm cigarette delivering 10 mg tar and 0.8 mg nicotine. High alkaloid blend containing 14% expanded stems - 27 mm CA filter with 39% ventilation.

9/78

AVALON 85

Introduced - test market - king size, triple filter, in soft pack.

7/63

BARCLAY 80 (BOX)

Test marketed - ultra low tar (3.2 mg) - 27 mm CA filter containing 64% ventilation-blend contains 11% reconstituted tobacco, 18% expanded tobacco and 11% expanded stems.

10/80

Tar (3.0 to 1.3 mg), nicotine (0.17 to 0.08 mg) and CO (3.0 to 1.2 mg) reduced as result of increase in filter ventilation (66 to 84%) - rows of (MP) holes increased (2 to 3) - elimination of reconstituted tobacco, expanded stems - increase in expanded tobacco (17 to 36%) - lower tobacco weight (0.582 to 0.520 g) - increase in total alkaloids (1.71 to 2.67%).

2/81

BARCLAY ULTRA LIGHTS 80 (BOX)

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 80 - similar to Barclay 80 in most characteristics.

11/84

BARCLAY 85

Test marketed - ultra low tar (2.5 mg) - 27 mm CA filter with 77% filter ventilation-blend contains 32% expanded tobacco and no reconstituted tobacco or expanded stems.

9/80

BARCLAY MENTHOL 85

Introduced - nationally - 85 mm mentholated cigarette. Tar (1.4 mg) and nicotine (0.11 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 85.

7/81

2050081295

BARCLAY ULTRA LIGHTS 85

Introduced in Wichita, Kansas - delivers 1 mg tar and 0.1 mg nicotine - utilizes the same filter as the Barclay 85 - similar to Barclay 85 in most characteristics.

11/

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)BARCLAY 100

Test marketed - ultra low tar (3.5 mg) - 27 mm CA filter with 69% filter ventilation - blend contains 26% expanded tobacco, 6% reconstituted tobacco and 12% expanded stems.

9/80

BARCLAY MENTHOL 100

Introduced - nationally - 100 mm mentholated cigarette. Tar (3.4 mg) and nicotine (0.28 mg) - filter ventilation is achieved by a system of mechanical perforation and four longitudinal grooves along the filter. These cigarettes are similar in most characteristics to Barclay 100.

7/81

BARCLAY ULTRA LIGHTS 100

Introduced in Wichita, Kansas - delivers 4 mg tar and 0.4 mg nicotine - utilizes the same filter as the Barclay 100 - similar to Barclay 100 in most characteristics.

11/84

BELAIR 85

Introduced - king size recessed filter, mentholated.

6/60

Lighter filter.

6/62

Flush-type filter.

6/62

TPM reduced, and paper porosity increased - Carbowax (5%) observed in the filter.

12/63

Filler alkaloids increased resulting in higher nicotine delivery.

1/64

Change in paper component, phosphate to citrate.

3/64

TPM reduced (2 mg).

8/64

Filler change reduced nicotine delivery by reducing total alkaloids.

9/64

Fiber shape changed from cloverleaf to X-shape.

3/66

TPM (1 mg) increased.

5/66

TPM (4 mg), nicotine (0.2 mg), and menthol in smoke (0.1 mg) decreased as result of change in paper porosity.

1/67

TPM (2 mg) decreased as result of blend change.

8/67

Tar (2 mg) reduced by increase in filter efficiency; fiber shape changed X to Y-shape.

3/68

Tar (1 mg), nicotine (0.2 mg), and menthol (0.5 mg) deliveries were reduced by changes in filter length (20 to 21 mm) and tipping paper (24 to 25 mm).

7/68

Reconstituted tobacco (7 to 11%) and RKS (12 to 16%) increased.

4/70

2050081296

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)BELAIR 85 (continued)

Addition of expanded RKS to blend replacing portion of regular RKS.	2/72
Lower total alkaloids (0.2%) and nicotine delivery (0.2 mg).	5/73
Tipping paper length increased 25 to 26 mm - No other changes.	7/73
Menthol in smoke content increased by increasing filler menthol.	3/76
Filler alkaloids and total reducing sugars were lower. Nicotine delivery reduced by 0.1 mg.	5/76
Lower tar delivery (15 to 13 mg) resulting from a change to a more porous, mechanically perforated cigarette paper.	8/77
Lower tar (13 to 12 mg) due to decrease in filler rod TPM delivery.	5/78
The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD.	10/78
Lower tar (12 to 8 mg) and nicotine (0.9 to 0.8 mg) deliveries resulting from the introduction of filter ventilation (26%) and an increase in tipping paper length (26 to 30 mm).	1/79
Tar (9 to 10 mg), nicotine (0.76 to 0.82 mg) and filler rod TPM (26.3 to 29.8 mg) increased resulting from less porous paper (7 to 15 sec.) with lower level of paper component (0.6 to 0.2%) - decreased total and filter RTD.	1/84

BELAIR 100

100 mm cigarette with 25 mm CA filter - Similar to Kool 100.	9/68
Coupon added to pack.	9/69
RKS decreased (17 to 13%).	10/69
Filter fiber shape changed - X-shape to Y-shape.	8/71
Addition of expanded RKS to blend replacing portion of regular RKS.	2/72
Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (2 mg) and nicotine (0.1 mg) decreased.	12/72
Lower total alkaloids (0.1%) and nicotine delivery (0.1 mg).	5/73
Menthol in smoke content increased by increasing filler menthol	3/76
Lower tar delivery (16 to 14 mg) resulting from a change to a more porous, mechanically perforated cigarette paper.	8/77

2050081297

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)BELAIR 100 (continued)

Lower tar (14 to 13 mg) due to decrease in filler rod TPM delivery. Lower tobacco weight and rod density were also noted.

5/78

The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD.

10/78

Lower tar (13 to 8 mg) and nicotine (1.0 to 0.7 mg) deliveries resulting from the introduction of filter ventilation (33%) and an increase in tipping paper length (32 to 36 mm). A change to a less porous paper (7 to 12 seconds) and the removal of expanded tobacco in the blend was noted.

1/79

Addition of 10% expanded tobacco resulted in a lower tobacco weight and rod density. Tar (7 to 8 mg) and CO (10 to 11 mg) increased as a result of a decrease in filter ventilation (37 to 24%).

11/80

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight.

3/81

Tar (10.2 to 8.8 mg), nicotine (0.81 to 0.74) and CO (12.0 to 10.2 mg) decreased - increased ventilation (25 to 34%).

9/82

Tar (9.2 to 7.5 mg), nicotine (0.67 to 0.58 mg), CO (8.0 to 6.6 mg) and menthol (0.38 to 0.32 mg) decreased - increased ventilation (36 to 45%).

5/84

BREEZE 85

Introduced - test market - king size mentholated, in soft pack - similar to Kool.

5/63

CAPRI LONGS 100

100 mm mentholated cigarette with 22 mm CA filter - Lower smoke menthol than Kool 100.

9/67

Filter length (22 to 25 mm) and tipping paper length (27 to 30 mm) increased - Paper porosity changed (21 to 10 seconds) - No change in tar.

11/68

CAPRI 110

Introduced a new 110 mm cigarette 24.7 mm in circumference. Tar (19 mg) and nicotine (1.5 mg); 30 mm CA filter; 35 mm tipping paper.

3/75

CAPRI MENTHOL 110

Introduced a new 110 mm menthol cigarette 24.7 mm in circumference. Tar (19 mg) and nicotine (1.5 mg); 30 mm CA filter; 35 mm tipping paper.

5/75

2050081298

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)CHEVRON 85

Introduced - test market - king size filter, in soft pack - similar to Viceroy.

3/63

CORONET 85 (NF)

Introduced - king size, nonfilter in new aluminum foil wrapper - similar to Raleigh plain end.

10/62

DOVER LONGS 100

Introduced - 100 mm cigarette with 22 mm CA filter.

2/67

Tar (4 mg) and nicotine (0.4 mg) reduced by changes in the filter and in the blend.

11/67

ELI CUTTER 70 (NF)

Introduced in Sacramento, CA and Denver, CO - delivers 21 mg tar and 1.3 mg nicotine - packed in a black pack.

11/84

ELI CUTTER 80 (BOX)

Introduced in Sacramento, CA and Denver, CO - delivers 15 mg tar and 1 mg nicotine - packed in a black pack - micro-mechanical ventilation system.

11/84

ELI CUTTER 85

Introduced in Sacramento, CA and Denver, CO - delivers 15 mg tar and 1 mg nicotine - packed in a black pack - micro-mechanical ventilation system.

11/84

FACT 85

Test marketed - CA filter with a pocket in the middle containing yellowish granules identified as Duolite - Tar (14 mg) and nicotine (1.0 mg) deliveries.

7/75

Cigarette paper changed to mechanically perforated with citrate as paper component. Tipping paper increased from 30 to 32 mm.

4/76

Introduction of Hauni ventilation (20%) resulted in lower tar delivery (14 to 11 mg).

7/77

Re-introduced with new packaging and lower tar (9 mg) and nicotine (0.7 mg) deliveries. Lower deliveries accomplished using more efficient filter and higher level of ventilation (30%). Continues to utilize "Duolite" granules in filter.

9/77

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)FACT MENTHOL 85

Menthol - test marketed CA filter with a pocket in the middle containing yellowish granules identified as Duolite. Tar (13 mg) and nicotine (0.9 mg) deliveries. Cigarette paper - mechanically perforated with citrate as paper component.

4/76

Introduction of Hauni ventilation (30%) resulted in lower tar delivery (13 to 11 mg).

7/77

Re-introduced with new packaging and lower tar (9 mg) and nicotine (0.7 mg) deliveries. Lower deliveries accomplished using a more efficient filter and higher level of ventilation (30%). Continues to utilize "Duolite" granules in filter.

9/77

FLAIR 100

Plain - 100 mm slim cigarette with 27 mm CA filter.

2/70

FLAIR MENTHOL 100

Menthol - 100 mm slim cigarette with 27 mm CA filter.

2/70

HALLMARK 85

Plain - New cigarette designed to give uniform smoke deliveries from first puff to last puff - The cigarette paper is coated with sodium chlorate at evenly spaced intervals.

9/70

HALLMARK MENTHOL 85

Menthol - New cigarette designed to give uniform smoke deliveries from first puff to last puff - The cigarette paper is coated with sodium chlorate at evenly spaced intervals.

9/70

HALLMARK 100

Introduced - test market - packaged in a slide and shell box with an automatic top opening device and delivers 24 mg tar. Blend contains no reconstituted tobacco or expanded stems; filter contains modified ion exchange resin (Duolite).

7/76

HALLMARK MENTHOL 100

Introduced - test market - a mentholated version of Hallmark 100 cigarettes. Delivers 23 mg tar.

8/76

KENTUCKY KING 85

Introduced, king size. "All tobacco filter."

5/60

Phosphate treated paper.

3/61

Increased TPM and nicotine deliveries achieved by slower static burning and increased alkaloids.

2/62

2050081300

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)KOOL 80 (BOX)

Introduced in flip-top box - Similar to Kool 85.

5/74

KOOL 85

New filter, lower RTD.

6/60

Filter fiber denier and weight decreased, no change in filtration efficiency.

6/61

Filter length increased (17 to 20 mm); higher filter efficiency.

3/62

Carbowax (5%) observed in the filter.

12/63

Filler alkaloids increased resulting in higher nicotine delivery.

2/64

TPM (2 mg) and nicotine deliveries decreased as result of change in paper additive, phosphate to citrate.

3/64

Nicotine delivery decreased by decreasing filler alkaloids.

12/64

Filler alkaloids increased.

4/65

Fiber shape changed from I to Y.

3/66

TPM (1 mg) increased.

6/66

TPM (2 mg), nicotine (0.2 mg), and menthol in smoke (0.1 mg) decreased by increasing paper porosity.

10/66

TPM (2 mg) decreased as result of a blend change.

8/67

Filter length (20 to 21 mm) and tipping paper (24 to 25 mm) increased, no change in smoke deliveries.

4/68

Tar (1 mg) and nicotine (0.1 mg) were reduced correlating with a lower filler rod TPM.

7/68

Menthol in smoke and filler increased.

1/69

Reconstituted tobacco (8 to 12%) and RKS (11 and 15%) increased.

4/70

Addition of expanded RKS to blend replacing portion of regular RKS.

2/72

Tar (0.6 mg) and nicotine (0.05 mg) lower due to faster static burning time.

10/72

2050081301

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)KOOL 85 (continued)

Reconstituted tobacco increased 11 to 15%.	5/73
Tipping paper length increased 25 to 26 mm - No other changes.	7/73
Menthol in smoke content increased by increasing filler menthol.	3/76

KOOL INTERNATIONAL MENTHOL 95

Test marketed - This brand is packaged in the princess pack. Tar (10 mg). Ventilation consists of 1 row of Laser perforated holes. This cigarette previously available only in foreign markets.	8/79
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KOOL MILDS 85

Introduced - Tar (16.5 mg) and nicotine (1.4 mg) - Very similar to Kool 85 except for total alkaloids. Regular and expanded RKS in blend (11%).	4/72
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Marketed nationally in July, 1972, with longer filter (21 to 25 mm) and increased tipping paper length (25 to 30 mm). Increase of regular and expanded RKS (11 to 18%). These changes resulted in lower tar (3 mg) and nicotine (0.3 mg).	7/72
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Lower total alkaloids (0.3%) and nicotine delivery (0.2 mg).	5/73
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Blend change - Lower alkaloids and filler rod TPM resulting in lower tar (2 mg) and nicotine (0.2 mg). Lower puff count and higher RTD noted.	8/74
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The addition of expanded tobacco at the 6% level was observed. This change resulted in lower tobacco weight and rod density and an increase in total RTD.	10/78
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A lower tar (13 to 11 mg) achieved by introduction of filter ventilation (15%) and a change to a more porous cigarette paper. A blend change indicated by a high filler alkaloid content and lower reducing sugars.	10/79
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Expanded tobacco eliminated (11 to 0%) - increase in tobacco weight.	3/81
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Freon expanded tobacco has been added (11%) resulting in lower tobacco weight (0.692 to 0.670 g).	7/81
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2050081302

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)KOOL MILDS 100

Test marketed - A brand extension of Kool Milds 85. Tar (13 mg) and nicotine (1.2 mg) with 19% ventilation. Blend contains 7% expanded tobacco. Ventilation achieved by a band of electrostatic perforation. 8/79

Expanded tobacco eliminated (11 to 0%) - increase in tobacco weight. 3/81

Freon expanded tobacco has been added (11%) resulting in lower tobacco weight (0.884 to 0.829 g). 7/81

KOOL NATURALS 85

Introduced - test market - delivers 14 mg tar. Similar to Fact 85 and Vanguard 85 cigarettes. Filter containing Duolite granules described as an "Actron" filter. 8/76

KOOL 100

100 mm mentholated cigarette with 22 mm CA filter. 9/67

Changes in blend, filter length (22 to 25 mm), and tipping paper (27 to 30 mm) did not alter smoke deliveries. 8/68

Menthol in smoke and filter increased. 1/69

Addition of expanded RKS to blend replacing portion of regular RKS. 2/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Lower tar (1 mg) and nicotine (0.1 mg). 2/73

Reconstituted tobacco content increased (11 to 15%). 5/73

Menthol in smoke content increased by increasing filler menthol. 3/76

Lower tar (18 to 17 mg) resulting from decrease in filler rod TPM delivery. An increase in total RTD was also observed. 5/78

Level of reconstituted tobacco increased from 10 to 16% and level of expanded stems decreased from 17 to 14%. 9/78

Lower tar (16 to 15 mg) and nicotine (1.2 to 1.1 mg) deliveries resulting from a change to a more porous cigarette paper (22 to 12 sec.). 12/78

The addition of 8% expanded tobacco was noted - This change resulted in a lower tobacco weight and rod density 9/80

2050081803

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)KOOL LIGHTS 85

Name changed from Kool Super Lights 85. Ventilation system changed to two rows of mechanical perforation. These cigarettes are lower in tar (8.6 mg) because of a more efficient filter and higher ventilation level.

9/81

KOOL LIGHTS 100

Name changed from Kool Super Lights 100. Ventilation system changed to two rows of mechanical perforation. These cigarettes are lower in tar (12.3 mg) because of a more efficient filter and higher ventilation level.

9/81

Tar (11 to 10 mg), nicotine (0.9 to 0.8 mg) and CO (10 to 8 mg) decreased due to increased ventilation (28 to 38%).

5/83

KOOL SUPER LIGHTS 85

Introduced - 85 mm mentholated cigarette - low tar (9 mg) and nicotine (0.7 mg) resulted primarily from filter ventilation (25%) and low available TPM filler. Mechanically perforated cigarette paper. Typical Brown & Williamson blend. Tar (9 mg) and nicotine (0.8 mg) listed on pack.

7/77

Tar (9 to 6 mg) and nicotine (0.8 to 0.6 mg) deliveries were decreased by increasing the filter ventilation and lowering the tobacco weight. Lower tobacco weight result of addition of 6% expanded tobacco. Paper porosity changed from 7 to 13 seconds. Data listed on pack as tar (7 mg) and nicotine (0.7 mg).

7/79

KOOL SUPER LIGHTS 100

Introduced - 100 mm mentholated cigarette - low tar (9 mg) and nicotine (0.7 mg) achieved by filter ventilation (35%) and low available TPM filler. Typical Brown & Williamson blend. Tar (9 mg) and nicotine (0.8 mg) listed on pack.

7/77

Addition of 10% expanded tobacco resulted in a lower tobacco weight and rod density.

11/80

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on packs has been removed.

3/81

Tar (8.1 to 9.4 mg), nicotine (0.65 to 0.72 mg) and CO (9.9 to 12.2 mg) increase - reduced filter ventilation (32 to 24%).

4/81

KOOL ULTRA 85

Introduced - test market - tar and nicotine deliveries advertised as 2 mg and 0.3 mg, respectively. The filter system is similar to that of the Barclay with mechanical perforation and four longitudinal grooves along the filter.

9/81

2050081304

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)KOOL ULTRA 100

Introduced - test market - tar and nicotine deliveries are 5.7 mg and 0.53 mg, respectively. The filter system is similar to that of the Barclay with mechanical perforation and four longitudinal grooves along the filter.

9/81

LIFE 85

TPM (7 mg) and nicotine (0.5 mg) increased by decrease in filter efficiency - Filter changed from 25 mm paper to 25 mm CA.

2/66

TPM (5 mg) and nicotine (0.3 mg) decreased as a result of increase in filter efficiency. Filter changed from 25 mm CA to dual filter 12.5 mm CA and 12.5 mm paper.

12/66

TPM (2 mg) decreased as result of increased filter efficiency - Filter changed to an 18 mm/7 mm (paper/CA).

2/67

TPM (4 mg) and nicotine (0.2 mg) increased as result of a change in filter construction 12.5/12.5 mm (paper/CA) which resulted in decrease in filter efficiency.

3/67

LIFE FILTER 100

Lowest tar delivery of any 100 mm - Dual filter, paper inner plug, and cellulose acetate outer plug - Tar (10 mg) and nicotine (0.8 mg) data are listed on pack.

6/70

Filter changed from 25 mm dual (paper/CA) to 27 mm CA. Total and filter RTD increased.

8/73

LYME 85

New flavor - lime-menthol product - Tar (14 mg) and nicotine (0.9 mg) low for B & W product.

10/71

PHOENIX 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper containing azo dyes - Circumference 21 mm - Tar (19 mg) and nicotine (1.4 mg) deliveries.

7/75

2050081305

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)PHOENIX MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper containing azo dyes - Circumference 21 mm - Tar (19 mg) and nicotine (1.4 mg) deliveries.

7/75

RALEIGH FILTER 85

Lighter filter with same efficiency.

4/61

Carbowax (5%) observed in the filter.

12/63

Filler alkaloids increased resulting in higher nicotine delivery.

1/64

TPM (4 mg) and nicotine (0.2 mg) decreased as result of change in paper component, phosphate to citrate.

6/64

Fiber shape changed from I to Y.

3/66

TPM (2 mg) increased.

6/66

TPM (2 mg) decreased, paper porosity increased and cigarette length decreased.

2/67

Reconstituted tobacco increased, 6 to 9%.

3/67

Tar (1 mg) reduced by changes to a more porous paper and in tipping paper (24 to 25 mm).

4/68

Filter length increased (20 to 21 mm).

7/68

Reconstituted material increased, 5 to 9%.

9/68

Paper porosity changed (11 to 17 seconds) - No change in tar.

1/69

Tar (2 mg) and nicotine (0.2 mg) decreased, lower alkaloids and tobacco weight observed.

8/69

RKS increased (7 to 18%).

10/69

Addition of expanded RKS to blend replacing portion of regular RKS.

3/72

Tipping paper length increased 25 to 26 mm - No other changes.

7/73

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on pack has been removed.

3/81

Tobacco weight decreased (0.778 to 0.732 g) due to addition of 4% Freon expanded tobacco to the blend.

11/83

2050081309

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)RALEIGH LIGHTS 85

Introduced - 85 mm version of Raleigh 85 with lower tar (13 mg) and nicotine (0.9 mg). It has 25 mm CA filter and 30 mm tipping paper.

4/73

Brand name changed from Raleigh Extra Milds 85 to Raleigh Lights 85. No other changes were noted.

10/76

Decrease in tar delivery (12 to 10 mg) resulting from introduction of filter ventilation (24%) and a change to a more efficient filter. Changed to a high alkaloid blend and replaced mechanically perforated cigarette paper with inherently porous paper.

4/78

Tar (9 to 8 mg) and nicotine (0.9 to 0.8 mg) deliveries lower correlating with a lower filler rod TPM.

3/79

12% Freon expanded tobacco added to blend.

5/83

RALEIGH LIGHTS 100

Introduced - 100 mm version of Raleigh Lights 85 with 10 mg tar and 0.9 mg nicotine. 27 mm CA filter with 24% ventilation.

8/78

Tar (7.8 to 9.8 mg), nicotine (0.68 to 0.81 mg) and CO (10.7 to 14.4 mg) increased - decrease in filter ventilation (34 to 19%) - higher RTD (4.9 to 5.6).

2/81

Tar (10 to 9 mg), nicotine (0.9 to 0.8 mg) and CO (13 to 11 mg) decreased due to increased ventilation (26 to 32%).

5/83

12% Freon expanded tobacco added to blend resulting in lower tobacco weight (0.892 to 0.826 g/cc) and rod density (0.251 to 0.230 g/cc). Fiber denier changed (2.6/Y to 3.2/Y) - resulting in lower filter RTD (4.1 to 3.3 in. H₂O) - decrease in filtration efficiency (59 to 52%). Tar increased (9 to 10 mg).

1/84

RALEIGH 100

100 mm cigarette with 25 mm CA filter.

8/69

Coupon on pack.

9/69

Tar (1 mg) increased correlating with a change in paper porosity (13 to 25 seconds).

3/71

Addition of expanded RKS to blend replacing a portion of regular RKS.

3/72

Tar (1.5 mg) and nicotine (0.1 mg) lower - Lower tobacco weight and rod density noted.

5/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (1 mg) and nicotine (0.1 mg) decreased.

12/72

Lower tar (17 to 16 mg) resulting from decrease in filler rod TPM delivery.

5/78

Addition of expanded tobacco at the 6% level correlating with a lower tobacco weight and rod density. Lower tar (17 to 16 mg) and filler rod TPM deliveries noted.

4/79

2050081307

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)RALEIGH 100 (continued)

Lower tar (16 to 15 mg) and nicotine (1.2 to 1.1 mg) resulting from a change to a more porous cigarette paper. 1/80

Tar (7.8 to 9.8 mg), nicotine (0.68 to 0.81 mg) and CO (10.7 to 14.4 mg) increased - decrease in filter ventilation (34 to 19%) - higher RTD (4.9 to 5.6). 2/81

Expanded tobacco eliminated (10 to 0%) - increase in tobacco weight - tar and nicotine data printed on pack has been removed. 3/81

4% Freon expanded tobacco added to blend resulted in lower tobacco weight (0.886 to 0.831 g) and rod density (0.250 to 0.233 g/cc). 1/84

RICHLAND 85

Introduced - contains 25 cigarettes per pack - delivers 15 mg tar and 1.2 mg nicotine - similar to Viceroy 85. 9/83

RICHLAND MENTHOL 85

Introduced - contains 25 cigarettes per pack - delivers 15 mg tar, 1.1 mg nicotine, and 0.5 mg menthol - similar to Kool 85. 9/83

ST. JAMES COURT 85

Introduced in Portland, Oregon - utilizes a dual cellulose acetate filter which consists of a 7 mm formed Filtrona section and a 20 mm "Actron" section - the Actron section contains a 20 mm cellulose acetate tube - the blend is not typical of Brown & Williamson products. 11/84

ST. JAMES COURT MENTHOL 85

Introduced in Portland, Oregon - utilizes a dual cellulose acetate filter which consists of a 7 mm formed Filtrona section and a 20 mm "Actron" section - the "Actron" section contains a 20 mm cellulose acetate tube - the blend is similar to Kool Lights. 11/84

ST. JAMES COURT 100 (BOX)

Introduced in Portland, Oregon - utilizes a dual cellulose acetate filter with a 7 mm formed Filtrona section and a 20 mm "Actron" section - the "Actron" section contains a 20 mm cellulose acetate tube - the blend is not typical of Brown & Williamson products. 11/84

2050081308

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)ST. JAMES COURT MENTHOL 100 (BOX)

Introduced in Portland, Oregon - utilizes a dual cellulose acetate filter with a 7 mm formed Filtrona section and a 20 mm "Actron" section - the "Actron" section contains a 20 mm cellulose acetate tube - the blend is similar to Kool Lights.

11/84

SEVENTY 70

Plain - test marketed with mechanically perforated cigarette paper and 17 mm CA filter - 10 mg tar and 0.7 mg nicotine.

6/76

SEVENTY MENTHOL 70

Menthol - test marketed with mechanically perforated cigarette paper and 17 mm CA filter - 10 mg tar and 0.7 mg nicotine.

6/76

SPIRIT 85

Test marketed - 85 mm cigarette delivering 8 mg tar and 0.9 mg nicotine - This new brand has a high efficiency, 25 mm CA filter with 30% ventilation.

10/78

SPIRIT 100

Test marketed - 100 mm cigarette delivering 9 mg tar and 1.0 mg nicotine - This new brand has a high efficiency, 27 mm CA filter with 27% ventilation.

10/78

SUEDES 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper colored with azo dyes - Tar (17 mg) and nicotine (1.2 mg) deliveries - Circumference 21 mm.

9/75

SUEDES MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter with a brown cigarette paper colored with azo dyes - Tar (19 mg) and nicotine (1.3 mg) deliveries - Circumference 21 mm.

9/75

2050081309

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)TRAMPS 85

Plain - Introduced - Light brown cigarette paper colored with caramelized sugar. Tar (19 mg) and nicotine (1.1 mg) deliveries. 9/74

Introduced with regular cigarette paper. Lower tar and nicotine deliveries than previous sample. 10/74

Tar (19 to 16 mg) and nicotine (1.3 to 1.1 mg) decreased. Filler rod TPM decreased (36 to 31 mg). Smoke deliveries change as result of paper change. 4/75

TRAMPS MENTHOL 85

Menthol - Introduced - Light brown cigarette paper colored with caramelized sugar. Tar (19 mg) and nicotine (1.1 mg) deliveries. 9/74

Introduced with regular cigarette paper. Lower tar and nicotine deliveries than previous sample. 10/74

Tar (19 to 17 mg) and nicotine (1.1 to 1.0 mg) decreased. Smoke deliveries change as result of paper change. 4/75

TRAMPS 110

Introduced plain 110 mm cigarette with light brown cigarette paper colored with caramelized sugar. Circumference 24.6 mm, 30 mm CA filter, and 35 mm tipping paper. 4/75

TRAMPS MENTHOL 110

Introduced menthol 110 mm cigarette with light brown cigarette paper colored with caramelized sugar. Circumference 24.6 mm, 30 mm CA filter, and 35 mm tipping paper. 4/75

VANGUARD 85

Introduced - Similar to Fact 85 cigarettes previously introduced - CA filter with pocket in the middle containing yellowish granules identified as Duolite - Tar (14 mg) and nicotine (1.0 mg) deliveries. 8/75

205008i3i0

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)VANGUARD MENTHOL 85

Introduced - test market - mentholated version of
Vanguard 85 - Delivers 14 mg tar.

7/76

VICEROY 85

"Deep Weave," more efficient filter.

8/60

Lighter, slightly less efficient filter resulted in
slight increase in TPM and nicotine delivery.

6/61

Total RTD reduced 20 mm H₂O by changes in plug RTD, rod
circumference, tobacco weight, and paper porosity.

8/62

Filter contains carbowax (5%).

5/63

Filter length has increased from 17 to 20 mm.

8/63

Filler alkaloids increased resulting in a higher
nicotine delivery.

1/64

TPM (3 mg) and nicotine deliveries decreased, a result of
a more porous cigarette paper.

2/64

TPM (2 mg) increased.

6/66

TPM (2 mg) decreased as result of blend change.

8/67

TPM (1 mg) reduced by changes to a more porous paper and
in tipping paper (24 to 25 mm).

4/68

Reconstituted material increased, 6 to 9%.

9/68

Tar increased (1 mg) - Change in paper porosity (11 to
18 seconds) noted.

5/69

Tar (1 mg) and nicotine (0.1 mg) decreased, amount of
paper component in cigarette paper increased.

7/69

RKS increased (11 to 14%).

10/69

RKS increased (13 to 18%).

10/70

Addition of expanded RKS to blend replacing portion of
regular RKS.

3/72

Tipping paper length increased 25 to 26 mm - No other
changes.

7/73

2050081311

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)VICEROY 85 (continued)

Package design change - Tar (15 to 17 mg) and nicotine (1.0 to 1.1 mg) deliveries increased. Blend change observed. 6/75

Tar (15.0 mg) and nicotine (1.0 mg) deliveries returned to level prior to package design change. 10/75

Lower tar (16 to 14 mg) and nicotine (1.1 to 1.0 mg) deliveries achieved by change to a more efficient filter. Changes in total and filter RTD and filter fiber denier also noted. 3/78

Addition of expanded tobacco at the 6% level was observed. First time a Brown & Williamson product containing expanded tobacco was obtained from the market. Decrease in tobacco weight along with lower tar (14 to 13 mg) and nicotine (1.0 to 1.9 mg) deliveries resulting from the addition of expanded tobacco. 9/78

Tar increased (13.8 to 14.7 mg) due to decreased filtration efficiency (48 to 40%) and change in fiber denier (3.0 to 3.7). 3/83

VICEROY EXTRA MILD 85

Introduced - Very similar to Viceroy Lights 85 previously test marketed by Brown & Williamson. 4/74

Tar (14 to 11 mg) and nicotine (1.0 to 0.8 mg) decreased by the introduction of Hauni ventilation at the 23% level. A decrease in total RTD was also noted. 1/77

Blend change resulting in higher filler rod TPM delivery. Changed to a more efficient filter and discontinued use of mechanically perforated cigarette paper. No change in tar or nicotine deliveries observed. Changed from Hauni ventilation to mechanically perforated tipping paper. 4/78

VICEROY LIGHTS 85

Introduced - Tar (12.5 mg) and nicotine (1.0 mg), 25 mm CA filter - 30 mm tipping paper - Blend contains expanded RKS. 4/72

VICEROY RICH LIGHTS 85

Introduced - Tar (9 mg) and nicotine (0.8 mg) with a 25 mm CA filter and 36% ventilation. Similar to Viceroy Extra Milds 85 cigarettes. 8/78

12% Freon expanded tobacco added to blend. 5/83

2050081312

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)

VICEROY 100

100 mm cigarette with 22 mm CA filter. 10/67

Tar (2 mg) and nicotine (0.1 mg) reduced by changes in filter length (22 to 25 mm), tipping paper (27 to 30 mm) and to a more porous paper (20 to 12 seconds). 8/68

Tar (1 mg) increased. Change in paper porosity (11 to 20 seconds) noted. 5/69

Tar (2 mg) and nicotine (0.2 mg) decreased, change in paper porosity (21 to 14 seconds). 6/69

RKS increased (11 to 14%).

Tar (2 mg) and nicotine (0.1 mg) were reduced correlating to lower filler rod TPM - A decrease in alkaloids and higher reducing sugars were observed - An increase in RKS was noted. 9/70

RKS increased (13 to 18%). 10/70

Tar (1 mg) increased correlating with change in paper porosity (12 to 22 seconds). 3/71

Addition of expanded RKS to blend replacing portion of regular RKS. 3/72

Change in filter length (25 to 27 mm) and tipping paper length (30 to 32 mm) - Tar (2 mg) and nicotine (0.2 mg) decreased. 12/72

Package design change. Tar (16 to 17 mg) and nicotine (1.1 to 1.2 mg) deliveries increased. Blend change observed. 6/75

Decrease in tar (18 to 16 mg) and nicotine (1.3 to 1.1 mg) deliveries resulting from a change to a more porous cigarette paper. 11/77

Addition of expanded tobacco at the 7% level correlated with lower tobacco weight and rod density. 5/80

Tar (14 to 16 mg), nicotine (1.0 to 1.1 mg), filler rod TPM (27 to 29 mg) and total alkaloids (1.60 to 1.72%) increased. 9% ventilation added to brand - CO decreased (16 to 14 mg).

B. BROWN AND WILLIAMSON TOBACCO COMPANY (continued)VICEROY RICH LIGHTS 100

Introduced - 100 mm cigarette delivering 8 mg tar and 0.8 mg nicotine. 27 mm CA filter with 40% ventilation. This is a brand extension of Viceroy Rich Lights 85 cigarettes.

9/78

Tar value (8 to 9 mg) changed on pack to comply with FTC Report.

5/82

12% Freon expanded tobacco added to blend.

5/83

Tar (11.5 to 10.2 mg) and CO (11.2 to 9.6 mg) decreased - ventilation increased (20 to 29%).

9/84

WINGS FILTER 85

85 mm cigarette - 20 mm CA filter - contains 25% reconstituted material.

3/67

2050081314

C. LIGGETT GROUP (continued)CHESTERFIELD 101 (continued)

Package changed to be similar to package of Chesterfield nonfilter. 10/74

Fiber shape changed (Y to I). 3/75

Tar (1 mg) lowered by increasing filter and tipping paper lengths. Fiber denier changed from 4.5 to 3.5. 1/76

Brand name changed from Chesterfield 101 to Chesterfield Filter Longs; cigarette length decreased (100.5 to 98.6 mm). Lower tar (1 mg) and nicotine (0.2 mg) deliveries were noted. Expanded stem level increased from 4 to 10%. 9/76

Brand name changed back to Chesterfield 101. Cigarette length and smoke deliveries returned to previous level. 11/76

An increase in the filter length (27 to 30 mm) and tipping paper length (32 to 35 mm) resulted in lower tar (15.3 to 14.1 mg), nicotine (1.10 to 1.04 mg), and CO (16.6 to 15.5 mg) deliveries. 8/81

CHESTERFIELD FILTER 85

Introduced - King size soft pack - slow burning rate resulting in high TPM and nicotine deliveries. 4/66

Coupon added to pack. 4/69

Package changed - Similar to Chesterfield nonfilter. 1/75

Lower tar (18 to 14 mg) and nicotine (1.1 to 1.0 mg) deliveries resulting from a change to a more porous cigarette paper and a decrease in tobacco weight. 7/78

Tar (14 to 12 mg), nicotine (1.0 to 0.9 mg), and CO (14 to 12 mg) decreased due to increased filter length (21 to 25 mm) and tipping paper length (26 to 30 mm). 9/83

CHESTERFIELD MENTHOL FILTER 85

Introduced - king size in soft pack - slow burning rate resulting in high TPM and menthol deliveries. 4/66

TPM (3 mg), nicotine (0.1 mg), and menthol in smoke (0.1 mg) decreased as result of changes in cigarette paper and filter efficiency. 3/67

Coupon added to pack. 4/69

Addition of reconstituted tobacco (0 to 19%), RKS decreased (15 to 3%) - Tar (3 mg) and nicotine (0.1 mg) decreased. 6/70

2050081316

C. LIGGETT GROUP (continued)CHESTERFIELD 85 (NF)

Paper porosity increased, reducing TPM by 8 mg and nicotine delivery 0.3 mg. 10/62

RTD increased (3.6 to 3.9 inches of H₂O). 8/65

TPM (2 mg) and nicotine (0.1 mg) deliveries increased. 12/65

Circumference reduced, resulting in lower tobacco weight. 5/67

Tar (3 mg) reduced by changes in type paper component, phosphate to citrate. 2/68

Coupon added to pack. 4/69

Tar (2 mg) and nicotine (0.1 mg) decreased - Reconstituted tobacco increased (6 to 11%) and RKS added to blend (4%). 9/71

Addition of expanded RKS to blend replacing a portion of regular RKS. 3/72

Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density. 6/73

Expanded stem level increased from 4 to 10%. 9/76

Tar (24.8 to 23.7 mg), nicotine (1.59 to 1.45 mg) and CO (16.0 to 13.5 mg) reduced - change to a more porous cigarette paper (22 to 13 sec.). 1/81

Tar (23.0 to 20.2 mg) and CO (15.4 to 12.4 mg) decreased due to use of perforated cigarette paper that is more porous (14 to 7 sec.) with higher level of paper component (0.4 to 1.4%). 11/83

Tar (20 to 22 mg) and CO (12 to 16 mg) increased due to a change to a less porous paper (7 to 15 sec.) with decreased level of paper component (1.4 to 0.4%). 5/84

DECADE 85

Introduced - Test market - Lower tar (6 mg) and nicotine (0.5 mg) deliveries achieved by filter ventilation. Filter contains a 14 mm polyethylene tube insert similar to the one used on L & M Flavor Lights 85. 10/76

Filter changed by removing polyethylene tube insert resulted in lower filter ventilation and higher filter RTD. No change in smoke deliveries. 10/80

2050081317

C. LIGGETT GROUP (continued)DECade MENTHOL 85

Introduced - low tar (6 mg) and nicotine (0.5 mg) achieved by high filter ventilation (59%). Has same filter and blend as Decade 85 cigarettes. Tar (5 mg) and nicotine (0.5 mg) listed on pack.

3/77

Filter changed by removing polyethylene tube insert resulted in lower filter ventilation and higher filter RTD. No change in smoke deliveries.

10/80

DECade 100

Introduced - 100 mm cigarette - 5 mg tar and 0.4 mg nicotine with a 27 mm CA filter and 65% ventilation. High level of citrate on the cigarette paper. Filter contains a polyethylene tube insert which is similar in construction to filters used on Decade 85 and L & M Lights 85 and 100 cigarettes.

8/78

DEVON 85

Introduced - King size mentholated cigarette with "Lark-type" filter - Filter has gas phase activity.

5/64

DORADO 85

Test market - New Mexico - delivers 14 mg tar and 1 mg nicotine.

7/83

DUKE 85

Dropped from C.I. History of Brand in C.I. 12/65.

1/66

EAGLE 85

Plain - test marketed - similar to L & M 85 cigarettes. Sell for 5¢ less per pack than any other 85 mm product.

1/76

EAGLE MENTHOL 85

Menthol - test marketed - similar to L & M 85 cigarettes. Sell for 5¢ less per pack than any other 85 mm product.

1/76

EVE LIGHT 100

Introduced 100 mm cigarette delivering 9 mg tar and 0.7 mg nicotine. 27 mm CA filter with 45% ventilation and a high level of citrate on the cigarette paper. Filter contains a polyethylene tube insert which is similar in construction to filters used on Decade 85 and L & M Lights 85 and 100 cigarettes.

8/78

Replaced by Eve Slim Lights 100 (Box).

6/83

2050081318

C. LIGGETT GROUP (continued)EVE SLIM LIGHTS 100 (BOX)

Replaces Eve Light 100 - delivers 12 mg tar and 1 mg nicotine - 22.7 circumference.

6/83

EVE LIGHT MENTHOL 100

Introduced 100 mm menthol cigarette delivering 9 mg tar and 0.7 mg nicotine. 27 mm CA filter with 45% ventilation and a high level of citrate on the cigarette paper. Filter contains a polyethylene tube insert which is similar in construction to filters used on Decade 85 and L & M Lights 85 and 100 cigarettes.

8/78

Replaced by Eve Slim Lights Menthol 100 (Box).

6/83

EVE SLIM LIGHTS MENTHOL 100 (BOX)

Replaces Eve Light Menthol 100 - delivers 12 mg tar and 1 mg nicotine - 22.7 circumference.

6/83

EVE 100

Plain - 100 mm cigarettes in new pack with floral design - Tipping paper also has floral design.

6/70

Addition of expanded RKS to blend replacing a portion of regular RKS.

3/72

Change in filter length (20 to 25 mm) and fiber denier (3.4 to 4.5) - Change in alkaloids, reducing sugars, and filler rod TPM - Lower tobacco weight and rod density noted.

4/72

Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density.

6/73

Cigarette length increased (97.8 to 98.7 mm).

10/74

Fiber shape changed (Y to I).

3/75

Design changed on tipping paper, package and carton.

5/75

Tipping paper length increased from 30 to 32 mm.

1/76

Tar (2 mg) and nicotine (0.1 mg) decreased by increasing filter length from 25 to 27 mm and increasing paper porosity.

3/76

Expanded stem level increased from 4 to 10%.

9/76

2050081319

C. LIGGETT GROUP (continued)EVE MENTHOL 100

100 mm cigarette in new pack with floral design -
Tipping paper also has a floral design. 6/70

Addition of expanded RKS to blend replacing a portion
of regular RKS. 3/72

Change in filter length (20 to 25 mm) and fiber denier
(3.3 to 4.6). No change in smoke deliveries. 12/72

Reconstituted tobacco content increased (22 to 26%) -
Resulted in lower total alkaloids, tar (1 mg) and
nicotine (0.1 mg). 5/73

Expanded tobacco added to blend (7%) resulting in lower
tobacco weight and rod density. 6/73

Fiber denier (3.4 to 4.5) and fiber shape (Y to I)
changed. Filter weight increased. No change in smoke
deliveries. 4/75

Design changed on tipping paper, package and carton. 5/75

Tipping paper length increased from 30 to 32 mm. 1/76

Tar (3 mg) and nicotine (0.1 mg) decreased by increasing
filter length (25 to 27 mm) and increasing paper porosity.
Menthol in smoke decreased (0.6 to 0.5 mg). 4/76

Expanded stem level increased from 4 to 10%. 9/76

EVE 120

Plain - test marketed - 21 mm circumference and filter
ventilation of 50% - White cigarette paper and packaged in
a crush-proof box. 3/76

EVE MENTHOL 120

Menthol - test marketed - 21 mm circumference and filter
ventilation of 50% - White cigarette paper and packaged in
a crush-proof box. 3/76

L & M 80 (BOX)

Introduced - delivers 25 mg tar. 12/57

Tobacco weight decrease. 12/62

Tobacco weight decrease (0.707 to 0.675 g) - tar decreased
(16.5 to 14.3 g). 7/78

Tar decreased (13.2 to 12.4 mg) due to filter length
increase (20 to 21 mm). 1/82

2050081320

C. LIGGETT GROUP (continued)L & M 85

Citrate to phosphate paper.	10/60
Lighter, dull cellulose acetate filter on all sizes, no changes in efficiency.	9/60-3/61
Faster burning, more porous paper, reduced TPM (5 mg) and nicotine (0.2 mg).	9/62
Alkaloids reduced gradually.	9-12/62
TPM reduced by 1.5 mg - Alkaloids and nicotine delivery also reduced.	4/63
Filler alkaloids increased slightly and fiber denier changed from 2.5 to 2.0 on all sizes.	4/65
Fiber shape (cloverleaf to I) and fiber denier (2.0 to 2.3) changed.	9/65
TPM and nicotine deliveries increased - Filler alkaloids also increased.	12/65
TPM increased - less efficient filter resulting from change in fiber shape and denier.	4/66
Filter length increased, 17 to 20 mm.	10/66
Tar (2 mg) and nicotine (0.1 mg) decreased by lower filler rod TPM.	10/67
Tar (2 mg) and nicotine (0.1 mg) decreased by lower filler rod TPM.	12/67
Nicotine delivery (0.1 mg) increased by higher alkaloids.	7/70
Tar (1 mg) and nicotine (0.1 mg) decreased. Lower tobacco weight and rod density observed.	1/71
Addition of expanded RKS to blend replacing a portion of regular RKS.	3/72
Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density.	6/73
Filter length (20 to 21 mm) and tipping paper (24 to 25 mm) increased. Fiber denier (3.5 to 3.0) and fiber shape (Y to I) changed. Alkaloids decreased. Nicotine delivery lower (1.3 to 1.2 mg).	3/75
Tipping paper length increased from 25 to 26 mm.	1/76

2050081321

C. LIGGETT GROUP (continued)L & M 85 (continued)

Expanded stem level increased from 4 to 10%. 9/76

A change in paper component from phosphate to citrate reduced the tar (18 to 17 mg) and filler rod TPM (34 to 31 mg). Faster static burning time also noted. 2/77

Lower tar (17 to 15 mg) and nicotine (1.1 to 0.9 mg) deliveries resulting from decrease in tobacco weight and a more porous cigarette paper. Levels of expanded tobacco and expanded stems in blend were increased. 3/78

Increase in filter length (21 to 25 mm) and tipping paper (26 to 30 mm). Filter fiber denier (3.0/Y to 3.7/Y) and paper porosity (13 to 16 sec.) were changed. 12/81

Lower total RTD resulted due to change to mechanically perforated cigarette paper. Increased paper component. 3/83

L & M FLAVOR LIGHTS 85

Introduced - test market - Low tar (8 mg) and nicotine (0.6 mg) deliveries achieved by filter ventilation. Blend contains no reconstituted tobacco or added stem. Filter contains a 14 mm polyethylene tube originating at the tobacco rod end. 9/76

Filter changed by removing polyethylene tube insert resulted in lower filter ventilation and higher filter RTD. No change in smoke deliveries. 10/80

L & M LONG LIGHTS 100

Test marketed - Low tar (8 mg) and nicotine (0.7 mg) deliveries achieved by filter ventilation (56%). Blend contains no reconstituted tobacco or added stem. 27 mm CA filter contains a polyethylene tube insert. Tar listed on package as "Only 8 mg tar." 3/77

Filter change by removing polyethylene tube insert and increasing fiber denier. No change in smoke deliveries. 10/80

Increase in filter length from (27 to 30 mm) and a change to a smaller fiber denier were noted. No change in smoke deliveries. 11/80

L & M LONG LIGHTS MENTHOL 100

Introduced - Tar (8 mg) and nicotine (0.8 mg) - Very similar in characteristics to L & M Long Lights 100. 6/80

Increase in filter length (27 to 30 mm). No change was observed in the smoke deliveries. 8/81

2050081322

C. LIGGETT GROUP (continued)

L & M 100

100 mm cigarette with 20 mm CA filter.	7/67
Tar (2 mg) and nicotine (0.2 mg) reduced by lower filler rod TPM.	10/67
Tar (1 mg) and nicotine (0.1 mg) reduced by a change to a more porous paper.	12/67
Tipping paper increased (24 to 27 mm), no change in smoke deliveries.	3/68
Nicotine delivery (0.1 mg) increased by higher alkaloids.	7/70
Tar (1 mg) and nicotine (0.1 mg) decreased. Lower tobacco weight and rod density observed.	1/71
Filter length (20 to 25 mm) and tipping paper (27 to 30 mm) increased. Fiber denier changed resulting in less efficient filter. Tar (1 mg) and nicotine (0.1 mg) increased.	5/71
Addition of expanded RKS to blend replacing a portion of tobacco weight and rod density.	3/72
Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density.	6/73
Cigarette length decreased 100 to 99 mm.	9/73
Fiber shape changed (Y to I).	3/75
Tar (2 mg) decreased resulting from increased filter and tipping paper lengths. A more porous cigarette paper was also noted.	1/76
Expanded stem level increased from 4 to 10%.	9/76
Lower tar (17 to 15 mg) and nicotine (1.1 to 1.0 mg) deliveries resulting from decrease in tobacco weight and a change to a more porous cigarette paper. Levels of expanded tobacco and expanded stems in blend were increased.	3/78
Tar (14.3 to 13.2 mg) and nicotine (1.06 to 0.99 mg) reduced - increase in tipping paper length (32 to 35 mm).	2/81
Filter length increased (27 to 30 mm) - higher filter RTD (2.5 to 2.9) - decrease in tobacco weight (0.16 to 0.18 g).	6/81
11% Freon expanded tobacco added to blend.	6/83
Tobacco weight (0.754 to 0.700) and rod density (0.227 to 0.208 g/cc) decreased due to increased amount of freon expanded tobacco in the blend (17 to 28%).	7/83
Tar (13.2 to 12.4 mg) and CO (14.7 to 13.0 mg) deliveries decreased due to the use of perforated cigarette paper that is more porous (14 to 7 sec.) with a higher level of paper component (0.4 to 1.4%).	11/83

Source: <https://www.industrydocuments.ucsf.edu/docs/rxgl0000>

C. LIGGETT GROUP (continued)L & M MENTHOL 100

Introduced - 100 mm mentholated cigarette with 20 mm CA filter. 2/67

Tar (3 mg) decreased as tipping paper length was increased. 11/67

Nicotine delivery (0.1 mg) increased by higher alkaloids. 7/70

Tar (2 mg) and nicotine (0.1 mg) decreased correlating with lower filler rod TPM. 11/71

Addition of expanded RKS to blend replacing a portion of regular RKS. 3/72

Filter length (20 to 25 mm) and tipping paper (27 to 30 mm) increased. No change in filter efficiency or smoke deliveries. 10/72

Cigarette length decreased 100 to 99 mm. 9/73

Fiber shape changed (Y to I). 4/75

Lower tar (2 mg) and nicotine (0.1 mg) as result of increase in filter length and tipping paper length. Lower tobacco weight and reducing sugars content noted. 6/76

Expanded stem level increased from 4 to 10%. 9/76

Lower tar (17 to 15 mg) delivery observed. A change to a more porous cigarette paper and a reduction in tobacco weight were also noted. 7/78

L & M SUPERIOR 85

Test market - Texas - delivers 14 mg tar and 1 mg nicotine - packaged in a black pack. 7/83

LARK 85

Introduced - king size in soft pack - new triple filter containing special carbon granules with gas phase activity. 4/63

Carbon content increased. 4/64

TPM (2 mg) and nicotine (0.1 mg) deliveries decreased. 9/66

Fiber shape changed (I to Y) - no change in smoke deliveries. 1/68

Addition of expanded RKS to blend replacing a portion of regular RKS. 3/72

Reduction in gas phase activity - lower carbon content. 3/72

Alkaloids and reducing sugars higher - Nicotine delivery increased (0.1 mg). 5/72

C. LIGGETT GROUP (continued)LARK 85 (continued)

Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density. 6/73

Tar delivery increased (2 mg) - Filler rod TPM increased indicating blend change. 4/74

Tar delivery (2 mg) decreased correlating with a lower filler rod TPM. 1/76

Tar increased (1 mg) correlating with an increase in filler rod TPM. 5/76

Expanded stem level increased from 4 to 10%. 9/76

Lower tar (17 to 15 mg) and nicotine (1.3 to 1.1 mg) deliveries resulting from a change to a more porous paper and a lower tobacco weight. An increase in expanded tobacco (5 to 7%) and a decrease in the reconstituted material (16 to 14%) correlated with the lower tobacco weight. Circumference decreased from 25.0 to 24.7 mm. 6/79

Tipping paper length increased (25 to 30 mm) - less porous cigarette paper (7 to 15 sec.) - Tar decreased (14.0 to 13.5 mg). 1/82

Filter length increased (20 to 25 mm) - outer plug of plug-space-plug increased - decrease in tobacco weight. 6/82

LARK 100

Introduced - 100 mm cigarette with CA-space-CA filter, with space containing approximately 88 mg of carbon. 9/68

Tar (1 mg) increased correlating to a change in paper porosity and slower static burning time. 4/71

Addition of expanded RKS to blend replacing a portion of regular RKS. 3/72

Alkaloids and reducing sugars higher - Nicotine delivery increased (0.1 mg). 5/72

Expanded tobacco added to blend (7%) resulting in lower tobacco weight and rod density. 6/73

Cigarette length decreased 100 to 99 mm. 9/73

Expanded stem level increased from 4 to 10%. 9/76

Increases in filter length (20 to 25 mm) and tipping paper length (28 to 30 mm) resulted in a slight reduction in tar delivery (18.7 to 18.2 mg). A lower tobacco weight was also noted. 9/77

Lower tar (18 to 16 mg) and nicotine (1.3 to 1.2 mg) deliveries resulting from a change to a more porous cigarette paper and a lighter tobacco weight. Increase in expanded tobacco (5 to 7%). 6/79

Tipping paper length increased (30 to 35 mm) - less porous cigarette paper (7 to 15 sec.) - decrease in tar (14.7 to 14.2 mg). 1/82

Tobacco weight (0.799 to 0.765 g) decreased - increased filter length (25 to 30 mm). 7/82

2050001325

C. LIGGETT GROUP (continued)LARK II 85

Test marketed - low tar (8 mg) and nicotine (0.5 mg) cigarette with a 25 mm CA filter with ventilation (47%). The CA filter has a pocket containing carbon granules (14 mg). Filter similar in construction to the ones used by Brown & Williamson on products containing Duolite granules in filters. Tar listed on pack as "Only 8 mg."

6/77

LARK LIGHTS 85

Test marketed - 85 mm cigarette delivering 8 mg tar and 0.6 mg nicotine - 25 mm CA filter containing charcoal granules with 40% ventilation. Blend contains 19% Freon expanded tobacco.

11/78

The elimination of filter ventilation resulted in an increase in tar (7.1 to 12.8 mg), nicotine (0.70 to 0.99 mg) and CO (6.9 to 13.8 mg) deliveries. A change in filter construction from carbon in a pocket to carbon in a plug-space-plug filter was noted. An increase in carbon content (7 to 64 mg) and a more porous cigarette paper (12 to 7 sec.) were noted. Expanded tobacco decreased (26 to 15%) and reconstituted tobacco increased (10 to 16%). This resulted in an increase in tobacco weight (0.589 to 0.640 g). The packaging was changed from white to red. These cigarettes are now similar to Lark 85.

8/81

LARK LIGHTS 100

Test marketed - 100 mm cigarette delivering 7 mg tar and 0.6 mg nicotine - 25 mm CA filter containing charcoal granules with 40% ventilation. Blend contains 19% Freon expanded tobacco.

11/78

The elimination of filter ventilation resulted in an increase in tar (7.2 to 13.1 mg), nicotine (0.65 to 1.08 mg) and CO (6.9 to 13.1 mg) deliveries. A change in filter construction from carbon in a pocket to carbon in a plug-space-plug filter was noted. An increase in carbon content (6 to 65 mg) and a more porous cigarette paper (12 to 6 sec.) were noted. Expanded tobacco decreased (26 to 15%) and reconstituted tobacco increased (10 to 16%). This resulted in an increase in tobacco weight (0.717 to 0.802 g). The packaging was changed from white to red. These cigarettes are now similar to Lark 100.

8/81

Tobacco weight (0.794 to 0.762 g) decreased - increased filter length (25 to 30 mm).

7/82

MASTERPIECE 85

Introduced - King size in soft pack with "pipe tobacco blend" - High TPM and nicotine.

6/65

OASIS 85

Dropped from C.I. History of Brand in C.I. 12/65.

1/66

2050081326

C. LIGGETT GROUP (continued)OMNI LUXURY LIGHTS MENTHOL 100

Introduced - test market - Tar (9.2 mg) and nicotine (0.74 mg). The ventilation system consists of one row of laser perforation.

7/81

ST. MORITZ 100

Plain - Test marketed - Previously marketed by Larus & Bro. Blend contains both expanded tobacco and stems. Tar delivery is 18 mg.

7/74

Tar decreased from 19 to 16 mg.

8/76

Filter length increased 25 to 27 mm.

7/77

Tar decreased 16 to 13 mg; change to a more porous, mechanically perforated cigarette paper.

7/78

ST. MORITZ MENTHOL 100

Menthol - Test marketed - Previously marketed by Larus & Bro. Blend contains both expanded tobacco and stems. Tar delivery is 18 mg.

7/74

Lower tar (17 to 14 mg) and nicotine (1.1 to 1.0 mg) deliveries resulting from an increase in filter length (25 to 27 mm) and a change to a more porous cigarette paper (22 to 13 seconds).

2/78

Replaced inherently porous cigarette paper with mechanically perforated paper. Decrease in tar (14.4 to 13.7 mg).

7/78

STRIDE 85

Value entry product distributed in Syracuse and Rochester, New York and Omaha, Nebraska. The pack is silver and burgundy. Similar to L & M 85 in smoke deliveries.

7/84

STRIDE 100

Value entry product distributed in Syracuse and Rochester, New York and Omaha, Nebraska. The pack is silver and burgundy. Similar to L & M 100 in smoke deliveries.

7/84

2050081327

C. LIGGETT GROUP (continued)VELLO 85

Plain - Test marketed 21 mm CA filter with a single row of ventilation holes having a center core of 8.0 Y-shape fibers and an outer periphery of 3.0 I-shape fibers - Filter system developed by Dr. Vello Norman - Tar (12 mg) and nicotine (0.8 mg) deliveries.

10/75

Cigarette re-engineered - Lower tar and nicotine as a result of a change in filter construction and blend formulation.

11/76

VELLO MENTHOL 85

Menthol - Test marketed 21 mm CA filter with single row of ventilation holes having a center core of 8.0 Y-shape fibers and an outer periphery of 3.0 I-shape fibers - Filter system developed by Dr. Vello Norman - Tar (12 mg) and nicotine (0.8 mg) deliveries.

10/75

Cigarette re-engineered - Changes in filter construction and blend formulation same as for Vello 85 cigarettes.

11/76

2050081328

D. LORILLARD COMPANYASPEN MENTHOL 85

Test marketed - Low tar (9 mg) and nicotine (0.8 mg) with a 25 mm CA filter containing 33% ventilation. High level of citrate in a fast burning cigarette paper. Porous tipping paper with perforated plug wrap.

7/79

ASPEN MENTHOL 100

Test marketed - Low tar (9 mg) and nicotine (0.8 mg) with a 27 mm CA filter containing 40% ventilation. High level of citrate in a fast burning cigarette paper. Porous tipping paper with perforated plug wrap.

7/79

BEECH-NUT 85 (NF)

Introduced - nonfilter, king size similar to Old Gold Straights.

7/61

BISTRO 85

Introduced - test market - Delivers 11 mg tar and 1.02 mg nicotine. The filter system uses micro-mechanical perforation.

9/81

BISTRO MENTHOL 85

Introduced - test market - Delivers 11 mg of tar, 1.01 mg of nicotine, and 0.35 mg menthol. The filter system uses micro-mechanical perforation.

9/81

CENTURY GREAT LENGTHS 100

100 mm cigarette with 20 mm CA filter. Name and warning label printed on cellophane - no identification on package.

9/67

Tar (2 mg) reduced by increase in tipping paper (24 to 30 mm).

2/68

Tar (1 mg) and nicotine (0.1 mg) decreased - change in filter - a new 25 mm dual filter with carbon noted.

3/69

DANVILLE 85

Introduced - king size filter cigarette.

4/66

DANVILLE MENTHOL 85

Introduced - mentholated cigarette with 20 mm CA filter.

8/66

2050081329

D. LORILLARD COMPANY (continued)DUNCAN 85 (NF)

Introduced - king size nonfilter - filler has a larger cut than normal domestic cigarettes.

9/65

Plastic mouthpiece added to cigarette - no filtration from mouthpiece.

11/65

HELMAR 80

80 mm cigarette - 17 mm CA filter - contains no RKS or reconstituted material.

4/67

HERITAGE 85

Introduced - test market - Delivers 10.9 mg tar and 0.93 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Bistro 85, Rebel 85, and Maverick 85.

11/81

HERITAGE 100

Introduced - test market - Delivers 11.6 mg tar and 1.01 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Rebel 100 and Maverick 100.

11/81

KENT 80

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight and rod density and higher total RTD - Also, lower puff count, tar and nicotine deliveries noted.

12/72

Filter length (20 to 21 mm) and tipping paper length (24 to 25 mm) increased. No change in smoke deliveries noted.

4/77

Decrease in tar delivery (15 to 13 mg) resulting from introduction of filter ventilation (17%). The new diluted filter is referred to on the pack as the Micronite II filter.

6/78

KENT 85

Reconstituted tobacco first observed - Lighter filter with same efficiency.

5/61

Less porous paper with no effect on TPM or nicotine deliveries.

11/61

Alkaloids reduced by 0.1%.

10/63

Fiber shape changed cloverleaf to I.

4/64

Filter length increased 17 to 20 mm.

8/64

205081330

D. LORILLARD COMPANY (continued)KENT 85 (cont.)

Alkaloids and nicotine delivery increased slightly.	7/65
Alkaloids and nicotine delivery increased.	9/65
TPM increased 1 mg.	4/66
TPM decreased 1 mg by an increase in paper porosity.	6/67
Tipping paper increased 24 to 25 mm.	3/69
Reconstituted tobacco content increased (8 to 12%).	4/69
RKS decreased (8 to 4%).	10/69
Reconstituted tobacco increased 10 to 17%.	10/70
Reconstituted tobacco increased (16 to 18%); RKS decreased (6 to 2%).	9/71
RKS decreased 2 to 0%.	10/71
Alkaloids and reducing sugars increased - Nicotine delivery increased (0.1 mg).	5/72
Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density and higher total RTD - Also, lower puff count, tar and nicotine deliveries noted.	12/72
Filter length increased (20 to 21 mm). Lower tobacco weight and rod density noted.	7/76
Lower tar (17 to 13 mg) and nicotine (1.1 to 1.0 mg) resulted from the introduction of filter ventilation (27%). New ventilated filter is referred to on pack as the Micronite II filter.	6/77
Decrease in tar delivery (13 to 12 mg) resulting from an increase in filter ventilation.	11/78

KENT MENTHOL 85

Test marketed - Different from Kent 85 plain in many characteristics.	5/71
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KENT 100

Introduced - 100 mm cigarette with 20 mm CA filter.	4/67
Tar (1 mg) reduced by increasing tipping paper (24 to 27 mm).	11/67

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D. LORILLARD COMPANY (continued)KENT 100 (cont.)

Tar (2 mg) and nicotine (0.1 mg) reduced by increasing tipping paper (27 to 30 mm). 1/68

Tar (1 mg) and nicotine (0.1 mg) reduced by a change to a more porous paper. 5/68

RKS decreased (8 to 4%). 10/69

Reconstituted tobacco increased 10 to 17%. 10/70

Fiber shape changed from X-shape to Y-shape - Filter weight decreased - Tar increased (1 mg). 9/71

Reconstituted tobacco increased 16 to 18% - RKS decreased 6 to 2%. 9/71

RKS decreased 2 to 0%. 10/71

Alkaloids and reducing sugars increased - Nicotine delivery increased (0.1 mg). 5/72

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, puff count, and higher total RTD - Also, lower tar and nicotine deliveries noted. 12/72

Tipping paper length increased 30 to 32 mm - tar (1 mg) and nicotine (0.1 mg) decreased. 11/74

Cigarette length (99.2 to 98.3 mm) decreased. Tobacco weight (0.87 to 0.84 g) decreased. 5/75

Filter length (25 to 27 mm) increased. No change in smoke deliveries. 6/75

Cigarette length increased (98.9 to 99.3 mm). 8/76

Lower tar (19 to 15 mg) and nicotine (1.3 to 1.1 mg) resulted from a change to a more efficient filter (42-52%) and more porous cigarette paper. Higher total and filter RTD's noted. 6/77

Lower tar delivery (15 to 13 mg) resulting from introduction of filter ventilation (30%). Change to a less efficient filter was also noted. The new ventilated filter is referred as the Micronite II filter. 7/77

Decrease in filter ventilation and change to a less porous cigarette paper resulted in an increase in tar delivery (13.6 to 14.5 mg). 12/77

2050518332

D. LORILLARD COMPANY (continued)KENT 100 (continued)

Decrease in tar delivery (14 to 13 mg) resulted from an increase in filter ventilation. Decrease in total RTD was noted.

8/78

KENT MENTHOL 100

100 mm mentholated cigarette similar to Kent 100.

6/70

Filter fiber shape changed from X-shape to Y-shape - Filter weight decreased.

8/71

Reconstituted tobacco increased 16 to 18% - RKS decreased 6 to 2%.

9/71

RKS decreased 2 to 0%.

10/71

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, and puff count. Also, lower tar and nicotine deliveries noted.

12/72

Tipping paper length increased (30 to 32 mm) - Lower tar (1 mg) and nicotine (0.1 mg).

1/75

Cigarette length (99.1 to 98.3 mm) decreased. Tobacco weight (0.84 to 0.82 g) decreased.

5/75

Filter length increased from 25 to 27 mm.

5/76

Cigarette length increased (98.3 to 99.2 mm)

8/76

Introduction of filter ventilation at the 25% level resulted in lower tar delivery (17 to 15 mg).

8/78

KENT III 85

Test marketed - 85 mm cigarette delivering 4 mg tar and 0.4 mg nicotine. Characterized by high alkaloid blend (2.8%) containing 19% Freon expanded tobacco. 25 mm dual CA filter with 63% ventilation.

11/78

Tar (3 to 2 mg) data changed on pack to comply with FTC Report.

4/82

Tar and nicotine deliveries removed from the pack.

7/83

2050818133

D. LORILLARD COMPANY (continued)KENT III 100

Brand extension of Kent III 85. Tar (5 mg) and nicotine (0.5 mg) deliveries. Brand characterized by a high alkaloid blend containing 19% expanded tobacco and a dual 27 mm CA filter with 51% ventilation. Ventilation achieved by 6 rows of mechanically perforated holes.

10/79

Tar (5 to 4 mg) and nicotine (0.6 to 0.5 mg) data changed on pack to comply with FTC Report.

4/82

Tar and nicotine deliveries removed from the pack.

7/83

KENT III 100 (BOX)

Nationally introduced - similar to Kent III 100 (Soft Pack). 11/84

KENT GOLDEN LIGHTS 85

Plain - Introduced porous tipping paper with perforated plug wrap - Longest tipping paper (32 mm) of any 85 mm cigarette - Tar (9 mg) and nicotine (0.8 mg) deliveries.

11/75

Tar (9 to 8 mg) and nicotine (0.8 to 0.7 mg) deliveries decreased by increasing filter ventilation and paper porosity. Filler alkaloids content decreased.

3/76

Cigarette length increased (84.2 to 84.8 mm). Decrease in rod density and total RTD.

12/76

Cigarette length decreased (84.7 to 84.1 mm); lower tobacco weight also noted.

7/78

Lorillard changed the name of Kent Golden Lights 85 to Golden Lights 85. The product is the same; only the name has changed.

10/78

Tar (8 to 7 mg) and nicotine (0.8 to 0.7 mg) values changed on pack to comply with FTC Report.

5/82

Name changed back to Kent Golden Lights 85.

6/83

KENT GOLDEN LIGHTS MENTHOL 85

Test marketed - similar to Golden Lights 85 - Tar (8 mg) and nicotine (0.7 mg) deliveries.

6/76

Lower tar delivery (8.7 to 7.4 mg) resulting from an increase in filter ventilation.

11/77

Lorillard changed the name of Kent Golden Lights Menthol 85 to Golden Lights Menthol 85. The product is the same; only the name has changed.

10/78

2050081334

D. LORILLARD COMPANY (continued)KENT GOLDEN LIGHTS MENTHOL 85 (continued)

Name changed back to Kent Golden Lights Menthol 85. 6/83

Tar (8 to 9 mg) and CO (8 to 9 mg) deliveries increased due to higher level of paper component (1.3 to 2.1%) - higher filler menthol (1.6 to 2.0 mg) correlated with higher smoke menthol (0.28 to 0.36 mg). 3/84

Paper component decreased (2.1 to 1.6%) - no changes in smoke deliveries. 9/84

KENT GOLDEN LIGHTS 100

Introduced - low tar (9 mg) and nicotine (0.8 mg) with 27 mm CA filter containing ventilation (40%). High level of paper component in a fast burning cigarette paper. Porous tipping paper with perforated plug wrap. Tar (10 mg) and nicotine (0.9 mg) listed on pack. 5/77

Lorillard changed the name of Kent Golden Lights 100 to Golden Lights 100. The product is the same; only the name has changed. 10/78

Nicotine value (0.7 to 0.8 mg) changed on pack to comply with FTC Report. 5/82

Name changed back to Kent Golden Lights 100. 6/83

KENT GOLDEN LIGHTS MENTHOL 100

Introduced - Similar to the Golden Lights 100 cigarettes. 5/77

Lorillard changed the name of Kent Golden Lights Menthol 100 to Golden Lights Menthol 100. The product is the same; only the name has changed. 10/78

Tar data changed on pack (8 to 7 mg) to comply with FTC Report. 6/82

Name changed back to Kent Golden Lights Menthol 100. 6/83

L.T. BROWN 120

Plain - Introduced 120 mm cigarettes - 30 mm CA filter. Tar (20 mg) and nicotine (1.5 mg) deliveries. Dark brown cigarette paper with pin-stripe lines. 6/75

L.T. BROWN MENTHOL 120

Menthol - Introduced 120 mm cigarettes - 30 mm CA filter. Tar (20 mg) and nicotine (1.5 mg) deliveries. Dark brown cigarette paper with pin-stripe lines. 6/75

LUKE 85

Test marketed - new 85 mm "full flavor" cigarette - Blend contains expanded tobacco (7%). 1/74

20500833

D. LORILLARD COMPANY (continued)MAVERICK 85

Test marketed - High alkaloid blend (2.0%) and nicotine delivery (1.6 mg) for Lorillard product - 20 mm CA filter. 11/71

Alkaloids decreased - Sugars increased - Tar (2 mg) and nicotine (0.1 mg) reduced - Filler rod TPM reduced (3 mg). 5/72

Test marketed in Washington State - 85 mm - tar (10.3 mg) and nicotine (0.86 mg) - filter ventilation by band of MP holes. 5/81

MAVERICK 100

Test marketed in Washington State - 100 mm, tar (10.6 mg) and nicotine (0.91 mg) - filter ventilation by band of MP holes. 5/81

MAX SLIM LIGHTS 100 (BOX)

Introduced - Tar (10 mg) and nicotine (0.9 mg) - Two rows mechanical perforation (32% ventilation) - similar to Virginia Slims Lights 100. 2/82

MAX SLIM LIGHTS MENTHOL 100 (BOX)

Introduced - Tar (10 mg), nicotine (0.9 mg), and menthol (0.39 mg) - Two rows of mechanical perforation (32% ventilation) similar to Virginia Slims Lights Menthol 100. 2/82

MAX 120

Plain - Introduced 120 mm cigarette with 30 mm CA filter - White cigarette paper - Tar (16 mg) and nicotine (1.2 mg) deliveries. 7/75

MAX MENTHOL 120

Menthol - Introduced 120 mm cigarette with 30 mm CA filter - White cigarette paper - Tar (16 mg) and nicotine (1.2 mg) deliveries. 7/75

NEWPORT 80 (BOX)

Filter length (17 to 20 mm) and tipping paper length (22 to 24 mm) increased. Tar (18 to 16 mg) and nicotine (1.2 to 1.1 mg) deliveries decreased. 2/75

NEWPORT 80 (NON-MENTHOL-BOX)

Test marketed in Penn. - 80 mm, non-mentholated, tar (11.8 mg) and nicotine (1.04 mg) - filter ventilation by band of MP holes. 4/81

2050081336

D. LORILLARD COMPANY (continued)NEWPORT 85

Less porous paper with no effect on TPM or nicotine delivery. 12/61

Alkaloids decreased by 0.2%. 6/63

Increases observed in TPM and nicotine deliveries - Blend change indicated by increases in total alkaloids. 12/63

Nicotine delivery and filler alkaloids increased. 4/65

TPM and nicotine increased - less efficient filter - change in filter fiber denier. 1/66

Alkaloids and nicotine delivery decreased. 7/66

Filter length increased (17 to 20 mm). 1/67

RKS content increased 8 to 12%. 4/67

Tar (1 mg) and nicotine (0.1 mg) lower, no other changes noted. 7/68

Reconstituted material increased, 8 to 13%. 9/68

Package design change. 10/68

Color of tipping paper changed from white to cork. 11/68

Tar (2 mg), nicotine (0.1 mg), and menthol delivery (0.15 mg) decreased, amount of paper component increased, faster static burning time, filler menthol lower. 8/69

Blend change, higher alkaloids and lower sugars - more porous cigarette paper. No change in smoke deliveries. 11/69

Reconstituted tobacco increased 11 to 16% - RKS decreased 9 to 4%. 10/70

Reconstituted tobacco increased 16 to 18% - RKS decreased 6 to 0%. 9/71

Fiber shape changed X to Y. 11/71

Tar delivery (1.5 mg) and filler rod TPM (2 mg) decreased - Alkaloids increased. 5/72

Tar (1 mg) and nicotine (0.2 mg) increased - Changes noted in total alkaloids and paper porosity. Fiber shape and denier change correlating with a more efficient filter. 8/72

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density and higher total RTD - Also, lower puff count, tar and nicotine deliveries noted. 12/72

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D. LORILLARD COMPANY (continued)NEWPORT 85 (continued)

Tar (2 mg) and nicotine (0.1 mg) deliveries were higher - Increase in filler rod TPM and filler alkaloids content.

5/76

Filter length (20 to 21 mm) and tipping paper length (24 to 25 mm) increased.

12/76

NEWPORT 85 (NON-MENTHOL BOX)

Test marketed in Penn. - 85 mm, non-mentholated, tar (13 mg) and nicotine (1.08 mg) - filter ventilation by band of MP holes.

4/81

NEWPORT 100

Introduced - 100 mm mentholated cigarette with 20 mm CA filter.

6/67

Tar (3 mg) and nicotine (0.2 mg) reduced by increase in tipping paper length (24 to 30 mm).

7/68

Filter length increased 20 to 25 mm, no change in smoke deliveries.

9/68

Tar (3 mg) increased - Filter length (20 to 25 mm) and fiber denier change - Also, tipping paper changed from white to cork.

11/68

Menthol in smoke and filler decreased.

9/69

Blend change, higher alkaloids and lower sugars - more porous cigarette paper - No change in smoke deliveries.

11/69

Reconstituted tobacco increased 11 to 16%.

10/70

RKS decreased 7 to 3%.

9/71

RKS decreased 3 to 0%.

10/71

Tar (2 mg) and nicotine (0.3 mg) were increased by changes in total alkaloids and paper porosity - Fiber shape and denier changed.

8/72

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, puff count, and higher total RTD - Also, lower tar and nicotine deliveries noted.

12/72

Blend change - Higher alkaloids and increased filler rod TPM delivery resulting in higher tar (1 mg) and nicotine (0.1 mg).

7/74

Tipping paper length (30 to 32 mm) increased. Tar (20 to 19 mg) and nicotine (1.4 to 1.3 mg) deliveries decreased.

2/75

205008338

D. LORILLARD COMPANY (continued)NEWPORT 100 (continued)

Cigarette length (99.2 to 98.3 mm) decreased. Lower tobacco weight noted. No change in smoke deliveries. 4/75

Increase in tar (1 mg) and nicotine (0.1 mg) resulting from a change to a less porous paper - Filter length increased from 25 to 27 mm. 11/75

Tar (2 mg) and nicotine (0.1 mg) deliveries were higher - Increase in filler rod TPM and filler alkaloids content. 5/76

Cigarette length increased (98.2 to 99.3 mm). 12/76

NEWPORT 100 (BOX)

Test marketed in Connecticut - tar 20 mg, nicotine 1.6 mg. 6/84

NEWPORT LIGHTS 80 (BOX)

Test marketed - Tar (8 mg) and nicotine (0.7 mg) - Low delivery result of 33% filter ventilation with porous tipping paper. Similar to physical characteristics and blend composition of Newport Lights 85. 3/80

NEWPORT LIGHTS 85

Test marketed - low tar (10 mg) and nicotine (0.8 mg). Characterized by a 25 mm CA filter with ventilation (27%) and a high level of paper component in a fast burning cigarette paper. Ventilation system utilizes porous tipping paper. 5/77

NEWPORT LIGHTS 100

Introduced - nationally - Delivers 9 mg tar, 0.78 mg nicotine, and 0.36 mg of menthol. The low delivery is achieved by using porous tipping paper. 9/81

NEWPORT LIGHTS 100 (BOX)

Test marketed in Connecticut - tar 9 mg, nicotine 0.8 mg. 6/84

OLD GOLD 80 (BOX)

Introduced in flip-top box - Similar to Old Gold 85. 5/74

OLD GOLD 100

Introduced - 100 mm cigarette with 25 mm CA filter. 5/69

Coupon added to pack. 6/69

Reconstituted tobacco increased 10 to 16% - RKS decreased 9 to 4%. 10/70

Filter length (25 to 27 mm) increased - Tipping paper length (30 to 32 mm) increased. Tar (21 to 20 mg) and nicotine (1.4 to 1.3 mg) deliveries decreased. 2/75

25008135

D. LORILLARD COMPANY (continued)OLD GOLD FILTER 85

Alkaloids reduced by 0.2%, nicotine delivery decreased. 1/63

Nicotine delivery and filler alkaloids increased - TPM increased slightly. 4/65

Filter length (17 to 20 mm) and fiber denier increased - tobacco weight decreased. 5/65

Coupon added to pack. 1/66

TPM (2 mg) and nicotine (0.1 mg) deliveries increased. 7/66

Reconstituted tobacco content increased (9 to 12%). 5/70

Reconstituted tobacco increased 10 to 16% - RKS decreased 8 to 5%. 10/70

Reconstituted tobacco increased 16 to 19% - RKS decreased 6 to 0%. 9/71

Filter fiber shape (I to Y) and denier (3.6 to 3.0) changed - No change in smoke deliveries. 10/71

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, and higher total RTD - Also, lower puff count, tar, and nicotine deliveries were noted. 12/72

Tipping paper length increased 24 to 25 mm. 9/73

Filter length (20 to 21 mm) and tipping paper length (25 to 26 mm) increased. 11/74

Tar (1 mg) and nicotine (0.1 mg) increased as result of increase in filler rod TPM. 12/76

Lower tar (17 to 16 mg) and filler rod TPM deliveries observed resulting from a decrease in tobacco weight. 9/78

Coupon dropped from pack. 11/79

OLD GOLD LIGHTS 85

Introduced on test market - Low delivery (9 mg tar and 0.8 mg nicotine) cigarettes characterized by 25 mm CA filter with 34% ventilation. Ventilation achieved using porous tipping paper. Further characterized by a high level of paper component on cigarette paper.

8/77

OLD GOLD STRAIGHTS 85 (NF)

Long to king size. 5/60

2030081340

D. LORILLARD COMPANY (continued)REBEL 85

Introduced - test market - These cigarettes deliver 11.1 mg tar and 0.96 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Maverick 85.

10/81

Discontinued.

4/83

REBEL 100

Introduced - test market - These cigarettes deliver 10.9 mg tar and 0.99 mg nicotine. The ventilation system consists of a band of micro-mechanical perforation. These cigarettes are similar to Maverick 100.

10/81

Discontinued.

4/83

REDFORD 85

Test marketed - new 85 mm "full flavor" cigarette -
Similar to Old Gold 85.

4/73

SATIN 100

Test marketed - delivers 11 mg tar and 0.9 mg nicotine -
two rows of mechanical perforation.

6/82

SATIN MENTHOL 100

Test marketed - delivers 11 mg tar, 0.9 mg nicotine and
0.39 mg menthol in smoke - two rows of mechanical
perforation.

6/82

SPRING 85

Spring 85 replaced by Spring 100 in March, 1967 (History
of Spring 85 in C.I. 1/72).

3/67

SPRING 100

Introduced - 100 mm mentholated cigarette with 20 mm CA
filter.

3/67

Tar (1 mg) reduced by increasing tipping paper (24 to
27 mm).

11/67

Tar (2 mg) and nicotine (0.2 mg) reduced by increasing
tipping paper (27 to 30 mm).

1/68

Filter length increased (20 to 25 mm) - Tar increased (2 mg). 1/69

Reconstituted tobacco increased 6 to 9% - RKS decreased
8 to 5%.

10/70

Reconstituted tobacco increased 11 to 18% - RKS decreased
8 to 0%.

9/71

Expanded tobacco added to blend (9%) - Resulted in lower
tobacco weight, rod density, and puff count - Also, lower
tar and nicotine deliveries noted.

12/72

2050081341

D. LORILLARD COMPANY (continued)SPRING 100 (continued)

Cigarette length (99.2 to 98.4 mm) decreased. Tar (20 to 19 mg) and nicotine (1.1 to 1.0 mg) decreased. 3/75

Tar (1 mg) decreased by a change in tipping paper length (30 to 32 mm). 11/75

Filter length (25 to 27 mm) and fiber denier (6.6 to 7.6 mm) increased - Filler alkaloids increased. 4/76

Cigarette length increased (98.7 to 99.3 mm). 12/76

TRIUMPH 85

Test marketed - 85 mm cigarette delivering 4 mg tar and 0.4 mg nicotine. Characterized by high alkaloid blend (2.8%) containing 19% Freon expanded tobacco. 25 mm dual CA filter with 60% ventilation. 11/78

TRIUMPH MENTHOL 85

Test marketed - 85 mm menthol cigarette delivering 4 mg tar and 0.4 mg nicotine. Characterized by high alkaloid blend (2.8%) containing 19% Freon expanded tobacco. 25 mm dual CA filter with 60% ventilation. 11/78

Tar (5 to 4 mg) and nicotine (0.6 to 0.5 mg) data changed on pack to comply with FTC Report. 5/82

TRIUMPH 100

Test marketed in New York - 100 mm, tar (4.7 mg) and nicotine (0.56 mg) - 6 rows of MP ventilation holes. 3/81

TRIUMPH MENTHOL 100

Test marketed in New York - 100 mm, tar (4.9 mg) and nicotine (0.58 mg) - 7 rows of MP ventilation holes. 3/81

TRUE 85

Introduced - king size filter cigarette with dual filter consisting of 10 mm CA and 10 mm polyethylene mouthpiece. 4/66

TPM decreased, 2 mg by increasing filter ventilation. 10/66

Tar decreased (1 mg) - A lower tobacco weight and filler rod TPM noted. 11/68

Reconstituted tobacco increased 10 to 14% - RKS decreased 8 to 3%. 10/70

Reconstituted tobacco increased 13 to 17% - RKS decreased 6 to 2%. 9/71

D. LORILLARD COMPANY (continued)

TRUE 85 (continued)

RKS decreased 2 to 0%. 10/71

Fiber shape changed C to Y-shape - No change in deliveries. 11/72

Expanded tobacco added to blend (9%) - Resulted in lower tobacco weight, rod density, and higher total RTD - Also, lower puff count, tar and nicotine deliveries noted. 12/72

Filter length increased (20 to 25 mm) - Lower tobacco wt. 10/74

New 5 mg tar version introduced. Lower tar achieved by increased filter ventilation and lower tobacco weight. Expanded tobacco level increased (11 to 23%). 7/76

Cigarette length decreased 84.7 to 84.0 mm. 6/78

Tar (5 to 4 mg) data changed on pack to comply with
FTC Report. 5/82

Test marketing re-engineered version in New Mexico - uses laser perforation and a lower level of expanded tobacco. 11/83

Re-engineered versions in national distribution - uses laser perforation and lower level of expanded tobacco. 5/84

TRUE MENTHOL 85

Introduced - Similar to True filter except for presence of menthol. 9/66

Reconstituted tobacco increased 13 to 17% - RKS decreased 6 to 2%. 9/71

RKS decreased 2 to 0%. 10/71

Fiber shape changed C to Y-shape - No change in deliveries. 11/72

Expanded tobacco added to blend (9%) - Resulted in lower

Filter length increased 20 to 25 mm - Lower tobacco weight 1/75

New 5 mg tar version introduced. Cigarettes are similar.

to True 85. 7/76

Lower car (0.5 to 3.0 mg.) and nicotine (0.1 to 0.7 mg.) observed correlating with an increase in filter ventilation. Increased filter ventilation resulted from decreasing the number of rows of ventilation holes (from 9 to 5) in the tipping paper and using a more porous combining plug wrap. 2/77

Cigarette length decreased 84.5 to 84.0 mm. 6/78

Test marketing re-engineered version in New Mexico - uses laser perforation and a lower level of expanded tobacco. 11/83

Re-engineered versions in national distribution - uses laser perforation and lower level of expanded tobacco. 5/84

D. LORILLARD COMPANY (continued)TRUE ULTRA ONE 85

Test marketed - ultra low tar (2 mg) and nicotine (0.2 mg) - 25 mm CA filter with 62% ventilation (6 rows of mechanically perforated).

11/80

TRUE 100

Plain - test marketed - 12 mg tar and 0.8 mg nicotine - Blend contains 13% expanded tobacco.

4/74

Cigarette length (99.5 to 97.9 mm) decreased.

6/75

Cigarette length (98.1 to 99.2 mm) increased - Lower tobacco weight and rod density.

6/76

Filter length increased (25 to 27 mm). Tobacco weight decreased.

7/76

Tar (13 to 8 mg) and nicotine (0.9 to 0.7 mg) decreased resulting from an increase in filter ventilation and a lower tobacco weight. A blend change indicated by a higher filler alkaloid content, lower reducing sugars and a higher expanded tobacco level (9 to 18%).

8/79

Test marketing re-engineered version in New Mexico - uses laser perforation and a lower level of expanded tobacco.

11/83

Re-engineered versions in national distribution - uses laser perforation and lower level of expanded tobacco.

5/84

TRUE MENTHOL 100

Menthol - Test marketed - 12 mg tar and 0.8 mg nicotine - Blend contains 13% expanded tobacco.

4/74

Cigarette length (99.4 to 98.3 mm) decreased.

6/75

Cigarette length (98.3 to 99.1 mm) increased - Lower tobacco weight and rod density.

6/76

Filter length increased (25 to 27 mm). Tobacco weight decreased.

7/76

Tar (13 to 9 mg) and nicotine (0.9 to 0.7 mg) decreased resulting from an increase in filter ventilation and a lower tobacco weight. A blend change indicated by a higher filler alkaloid content, lower reducing sugars and a higher expanded tobacco level (9 to 18%).

8/79

2050081344

D. LORILLARD COMPANY (continued)TRUE MENTHOL 100 (cont.)

Test marketing re-engineered version in New Mexico - uses laser perforation and a lower level of expanded tobacco.

11/83

Re-engineered version in national distribution - uses laser perforation and lower level of expanded tobacco.

5/84

YORK 88

Introduced - dual filter, carbon on tow filter - Filter has gas phase activity.

3/64

Introduced - dual filter, bonded carbon filter - Filter has gas phase activity.

4/64

YORK 90 (NF)

Introduced - Imperial Size (N-F, 90 mm).

8/61

Dropped from C.I. (History of Brand in C.I. 5/64).

3/64

YORK 100

Introduced - 100 mm cigarette with 20 mm CA filter.

3/67

ZACK 80

Introduced - package looks like blue denim - No unusual characteristics.

10/74

ZACK 85

Introduced - package looks like blue denim - No unusual characteristics.

10/74

2050081345

E. REYNOLDS TOBACCO COMPANYBRANDON 85 (NF)

Introduced - king size, nonfilter.

2/62

BRIGHT 85

Test market - Tar (6 mg), nicotine (0.5 mg) and menthol (0.5 mg) - one row mechanical perforation.

7/82

National distribution.

11/82

Filter length increased (25 to 27 mm) - tobacco weight decreased (0.638 to 0.610 g) - filter RTD increased (4.3 to 4.7 in.).

11/83

More porous cigarette paper (24 to 17 sec.) with increased paper component (0.4 to 0.8%) used on brand - Increased filler menthol (3.1 to 3.4 mg) resulted in higher smoke menthol (0.43 to 0.56 mg).

3/84

BRIGHT 100

Test market - Tar (6 mg), nicotine (0.5 mg) and menthol (0.5 mg) - one row mechanical perforation.

7/82

National distribution.

11/82

Increased level of paper component (0.4 to 1.4%) - higher filler menthol (4.1 to 4.5 mg) resulted in higher smoke menthol (0.49 to 0.56 mg).

3/84

Filter length increased (27 to 31 mm) - tobacco weight decreased (0.780 to 0.736 g).

9/84

BROOKWOOD MENTHOL 85

Test marketed - Tar (9 mg) - Cigarette has a high alkaloid blend with filter ventilation consisting of two rows of mechanically perforated holes. Very similar to the Real Menthol 85 already on the market.

8/79

CAMEL 70 (NF)

Nicotine delivery and filler alkaloids decreased.

2/62

Nicotine delivery and filler alkaloids increased. Also RTD decreased 0.3 inches of H₂O.

2/65

Expanded tobacco (7%) noted in blend of some cigarettes.

12/69

2050081346

E. REYNOLDS TOBACCO COMPANY (continued)CAMEL 70 (NF) (continued)

Expanded tobacco observed in all cigarettes - Tobacco weight lower - No change in tar or nicotine. 3/70

Filler alkaloids reduced (0.2%) correlating with a lower nicotine delivery. 11/75

Level of reconstituted tobacco increased from 9 to 16%. 9/78

Tar (24 to 19 mg), nicotine (1.7 to 1.4 mg), and CO (15 to 11 mg) deliveries were noted as a result in a change to a more porous cigarette paper and a change in the type paper component (phosphate to citrate). 11/80

CO delivery increased (12.6 to 15.8 mg) correlating with a change to less porous paper (17 to 25 sec.) - paper component increased (0.4 to 1.4%). 3/83

CAMEL FILTER 80 (BOX)

Plain - introduced in flip top box similar to Camel Filter 85 - Tar (19 mg) and nicotine (1.3 mg) deliveries. 10/75

CAMEL FILTER 85

Introduced in three different packages - king size with a 20 mm CA filter. 10/65

Blend change noted in cigarette marketed in brown pack - lower alkaloids resulting in lower nicotine. 4/66

TPM (4 mg) and nicotine (0.2 mg) decreased as result of increase in filter efficiency. 3/67

TPM (2 mg) and nicotine (0.1 mg) decreased as result of change in blend. 4/67

Reconstituted material increased, 19 to 24%. 9/68

Expanded tobacco (9%) noted in blend - no change in tar or nicotine deliveries - Tobacco weight lower. 3/70

The amount of expanded tobacco increased (9 to 12%) - Nicotine delivery decreased (0.1 mg). 3/71

Filter length (20 to 21 mm) and tipping paper (24 to 25 mm) increased. Lower tar (1 mg) and nicotine (0.1 mg) deliveries observed. 10/72

E. REYNOLDS TOBACCO COMPANY (continued)CAMEL FILTER 85 (continued)

Filler alkaloids reduced (0.1%). 11/75

Tar (15.5 to 13.8 mg), nicotine (1.19 to 1.02 mg) and CO (17 to 14.4 mg) decreased - achieved filter ventilation (0 to 13%) by band of ESP holes. 4/81

Test marketed packs containing 12 cigarettes per pack. 3/83

CAMEL MENTHOL 85

Introduced - 85 mm mentholated cigarette with 20 mm CA filter. 9/66

TPM (4 mg) and nicotine (0.2 mg) decreased as result of a blend change. 9/67

CAMEL LIGHTS 80 (BOX)

Test marketed - Tar (8 mg) and nicotine (0.8 mg) - Similar in characteristics to Camel 85's. 4/80

CO (7.1 to 8.1 mg) increased - change to less porous cigarette paper (16 to 30 sec.) - paper component (0.9 to 1.4%) increased. 8/82

Tobacco weight (0.677 to 0.727 g) and rod density (0.250 to 0.264 g/cc) increased - decreased amount of expanded tobacco (18 to 11%) - decreased total alkaloids observed (1.99 to 1.59%). 9/82

Tar delivery increased (7.8 to 9.1 mg) due to decreased ventilation - Paper component decreased (1.4 to 0.9%). Paper porosity increased (29 to 16 sec.). 5/83

CAMEL LIGHTS 85

Introduced on test market - Low delivery cigarettes (10 mg tar and 0.8 mg nicotine) characterized by a 25 mm CA filter with 32% ventilation and a high alkaloid blend. 9/77

Tar (10 to 8 mg) and nicotine (0.9 to 0.8 mg) decreased from an increase in filter ventilation (25 to 35%). 4/80

Test marketed packs containing 12 cigarettes per pack. 3/83

Filter length increased (25 to 27 mm) - rod density increased (0.233 to 0.245 g/cc). 9/83

Less porous cigarette paper (16 to 24 sec.) with higher level of paper component (0.7 to 1.5%). 11/83

8451800500

E. REYNOLDS TOBACCO COMPANY (continued)CAMEL LIGHTS 100

Introduced - 12 mg tar and 1.2 mg nicotine - Very similar to Winston Lights 100's.

4/79

Tar (11.3 to 9.7 mg), nicotine (0.88 to 0.77 mg) and CO (14.5 to 13.6 mg) deliveries decreased - increased ventilation (20 to 26%) - increased filter length (27 to 31 mm) and weight (0.17 to 0.19 g) - decreased tobacco weight (0.851 to 0.808 g) - tipping paper length increased (34 to 35 mm).

5/84

CAMEL TALLS 100

Test marketed - similar to Winston 100 in most characteristics.

9/71

Removed from market.

4/72

CENTURY 85

National distribution in 33 states - 25 cigarettes per pack - 14 mg tar and 1 mg nicotine.

7/83

CENTURY LIGHTS 85

National distribution in 33 states - 25 cigarettes per pack - 9 mg tar and 0.8 mg nicotine.

7/83

CENTURY 100

National distribution in 33 states - 25 cigarettes per pack - 11 mg tar and 1 mg nicotine.

1/84

CENTURY LIGHTS 100

National distribution in 33 states - 25 cigarettes per pack - 11 mg tar and 1 mg nicotine.

1/84

DAWN 120

Introduced 120 mm cigarette - white cigarette paper with thin gray parallel lines (filigrain) - Tar (20 mg) and nicotine (1.5 mg) deliveries. 21 mm circumference.

5/75

DAWN MENTHOL 120

Introduced 120 mm menthol cigarette - white cigarette paper with thin gray parallel lines (filigrain) - tar (20 mg) and nicotine (1.5 mg) deliveries. 21 mm circumference.

5/75

DORAL 85

Plain (85 mm) model introduced - 25 mm filter, 10 mm CA, and 15 mm plastic sections and utilizes filter ventilation.

11/68

Expanded tobacco (6%) noted in blend since September, 1969.

11/69

205008134

E. REYNOLDS TOBACCO COMPANY (continued)DORAL 85 (continued)

Reconstituted tobacco in blend increased (20 to 23%) in Doral 85 Plain. Tar delivery increased (1 mg) - filter ventilation decreased (30 to 24%). 4/71

Tar delivery increased (1 mg) - Filter ventilation decreased (24 to 21%). 8/71

Tar delivery decreased by a change to a more porous cigarette paper and a lower filler alkaloid content - Tar (2 mg) and nicotine (0.1 mg) decreased. 9/75

Tar (1 mg) and nicotine (0.1 mg) increased as result of increase in filler rod TPM. 11/76

DORAL MENTHOL 85

Mentholated (85 mm) model introduced - 25 mm filter, 10 mm CA, and 15 mm plastic sections and utilizes filter ventilation. 11/68

A green plug wrap was placed between the plastic mouthpiece and outer plug wrap on Doral Menthol. 6/69

Expanded tobacco (6%) noted in blend since September, 1969. 11/69

The amount of expanded tobacco increased (6 to 8%) and the amount of filter ventilation increased. The tar decreased (1 mg). 2/71

Tar delivery increased (1 mg) - Filter ventilation decreased (30 to 24%). 4/71

Tar delivery increased (1 mg) - Filter ventilation decreased (24 to 21%). 8/71

Tar delivery decreased by a change to a more porous cigarette paper and a lower filler alkaloid content - Tar (2 mg) and nicotine (0.1 mg) decreased. 9/75

Higher tar (12.3 to 13.7 mg) and nicotine (0.9 to 1.0 mg) were noted corresponding to a decrease in filter ventilation. 3/77

DORAL II 85

Test marketed - These new Doral II cigarettes deliver 5 mg tar and 0.5 mg nicotine - 25 mm CA filter with 60% ventilation and a high level of paper component in the cigarette paper - 19% Freon expanded tobacco in the blend. 2/79

E. REYNOLDS TOBACCO COMPANY (continued)DORAL II MENTHOL 85

Test marketed - These new Doral II Menthol cigarettes deliver 5 mg tar and 0.5 mg nicotine - 25 mm CA filter with 60% ventilation and a high level of citrate in the cigarette paper - 19% Freon expanded tobacco in the blend.

2/79

Tar (5.3 to 3.8 mg), nicotine (0.48 to 0.41 mg) and CO (4.2 to 3.2 mg) lowered - increase in filter ventilation (53 to 65%) lower total RTD (3.6 to 2.8).

2/81

Paper component in cigarette paper decreased - higher puff count (7.2 to 7.5).

4/81

DORAL FILTER LIGHTS 85

Value entry product - test marketed in 13 states - delivers 12 mg tar - contains highest level of reconstituted material (32%).

5/84

DORAL FILTER LIGHTS MENTHOL 85

Value entry product - test marketed in 13 states - delivers 12 mg tar - contains highest level of reconstituted material (32%).

5/84

DORAL FILTER LIGHTS 100

Value entry product - test marketed in 13 states - first 100 mm cigarette introduced using Doral name.

5/84

DORAL FILTER LIGHTS MENTHOL 100

Value entry product - test marketed in 13 states - first 100 mm cigarette introduced using Doral name.

5/84

EMBRA 100

100 mm slim cigarettes with 27 mm filter, plain - new type pack and carton.

9/69

Expanded tobacco (6%) noted in blend since August, 1969.

11/69

Tar (4 mg) and nicotine (0.2 mg) increased by changes in paper porosity (11 to 18 sec.) and fiber denier.

2/70

Discontinued by Reynolds in May, 1970.

5/70

1561800502

E. REYNOLDS TOBACCO COMPANY (continued)EMBRA MENTHOL 100

100 mm slim cigarettes with 27 mm filter, mentholated - new type pack and carton. 9/69

Expanded tobacco (6%) noted in blend since August, 1969. 11/69

Tar (4 mg) and nicotine (0.2 mg) increased by changes in paper porosity (11 to 18 sec.) and fiber denier. 2/70

Discontinued by Reynolds in May, 1970. 5/70

JAMESTOWN 85

85 mm cigarette - similar to Winston 85 possibly for trademark purposes. 6/70

MORE 120 (BOX)

Plain - Introduced - 120 mm cigarette with brown colored cigarette and tipping paper. This new cigarette is slimmer (21 mm circumference) and longer (119 mm) than any other cigarette on the market. Two versions introduced - one with 3 rows of parallel (mechanically) ventilation holes the length of the cigarette rod and one without ventilation holes. 9/74

Tar decrease (22 to 21 mg) by increase in filter ventilation (22 to 36%). A lower total RTD was observed. 9/79

Tar (20.5 to 18.5 mg), nicotine (1.64 to 1.52 mg) and CO (23.2 to 20.4 mg) reduced - lower filler rod TPM (38.1 to 35.1 mg). 1/81

Tar (17.3 to 15.8 mg), nicotine (1.46 to 1.23 mg) and CO (20.4 to 19.3 mg) lowered - increase in filter length (30 to 35 mm) and tipping paper length (35 to 39 mm). 5/81

Tar (15 to 17.1 mg), nicotine (1.19 to 1.36 mg) and CO (21 to 22.8 mg) increased - decreased ventilation (37 to 28%). 11/82

MORE MENTHOL 120 (BOX)

Menthol - Introduced - 120 mm cigarette with brown colored cigarette and tipping paper. This new cigarette is slimmer (21 mm circumference) and longer (119 mm) than any other cigarette on the market. Two versions introduced - one with 3 rows of parallel (mechanically) ventilation holes the length of the cigarette rod and one without ventilation holes. 9/74

Tar decrease (23 to 22 mg) by increase in filter ventilation (23 to 33%). A lower total RTD was observed. 9/79

E. REYNOLDS TOBACCO COMPANY (continued)MORE MENTHOL 120 (BOX) (continued)

Tar (21.2 to 18.8 mg), nicotine (1.75 to 1.53 mg) and CO (23.4 to 19.4 mg) reduced - lower filler rod TPM (38.1 to 35.1 mg).

1/81

Tar (18 to 16 mg), nicotine (1.5 to 1.3 mg) and CO (20 to 19 mg) lowered - increase filter length (30 to 35 mm) and tipping paper length (35 to 39 mm).

6/81

MORE LIGHTS 100 (BOX)

Introduced - a beige colored slim cigarette - targeted for the female market - tar (8 mg) and nicotine (0.6 mg) - expanded tobacco (16%).

6/81

Color of cigarette paper changed to deep tan - design of package changed.

9/84

MORE LIGHTS MENTHOL 100 (BOX)

Introduced - a beige colored slim cigarette - targeted for the female market - tar (8 mg) and nicotine (0.6 mg) - expanded tobacco (28%).

6/81

Filler menthol increased (2.6 to 3.4 mg) - smoke menthol increased (0.39 to 0.56 mg) - ventilation system changed from mechanical to Hauni laser perforation.

5/84

Color of cigarette paper changed to deep tan - design of package changed. Decrease in expanded tobacco (28 to 17%) - increase in tobacco weight (0.603 to 0.684 g) - increase puff count (8.0 to 9.5).

9/84

MR. MENTHOL 85

85 mm mentholated cigarette with 20 mm CA filter. Single row of ventilation holes - Blend does not contain expanded tobacco.

2/70

NOW 80 (BOX)

Introduced a low tar (0.2 mg) and nicotine (0.03 mg) cigarette. Ultra low delivery achieved by high filter ventilation (85%) and low tobacco weight (82% expanded tobacco).

4/80

NOW 85 (BOX)

Plain - test marketed in a flip-top box - Tar (2 mg) and nicotine (0.2 mg) deliveries - Accomplished primarily by high ventilation and blend composition - Blend contains 50% expanded tobacco and lowest filler weight of any 85 mm cigarette.

12/75

Test marketed in a crush-proof box - Tar (2 mg) and nicotine (0.2 mg) deliveries accomplished by high filter ventilation and blend composition - Blend contains 50% expanded tobacco and has a rod density of 0.17 g/cc.

1/76

2000010553

E. REYNOLDS TOBACCO COMPANY (continued)NOW 85 (BOX) (continued)

Tar and nicotine data on pack changed to 1 mg and 0.1 mg, respectively. Lower tar achieved as result of increased filter ventilation.

12/76

Tar (1 mg) and nicotine (0.1 mg) data listed on pack replaced by statement "Ultra Low Tar." Increase in filler alkaloids noted.

11/77

Tar (2 to 0.6 mg), nicotine (0.2 to 0.06 mg) and CO (2 to <1.0 mg) lowered - increase filter ventilation (68 to 82%) and tipping paper (30 to 35 mm) - tar data on pack changed from 2 to 1 mg.

6/81

Filter length increased (25 to 27 mm) - filter RTD increased (6.1 to 6.5 in. H₂O) - tobacco weight (0.524 to 0.505 g) and rod density (0.182 to 0.718 decreased Ventilation system changed from mechanical perforation to laser perforation.

9/83

Tipping paper length decreased (35 to 31 mm).

1/84

NOW 85 (SOFT PACK)

Soft pack version marketed in Washington, D.C. Similar to hard box version of Now 85 cigarettes with the exception of a longer cigarette length. "Ultra Low Tar" specified on the package.

11/77

NOW MENTHOL 85 (BOX)

Menthol - test marketed in a flip top box - Tar (2 mg) and nicotine (0.2 mg) deliveries - Accomplished primarily by high ventilation and blend composition - Blend contains 50% expanded tobacco and lowest filler weight of any 85 mm cigarette.

12/75

Menthol - Test marketed in a crush-proof box - Tar (2 mg) and nicotine (0.2 mg) deliveries accomplished by a high filter ventilation and blend composition - Blend contains 50% expanded tobacco and has a rod density of 0.17 g/cc.

1/76

Tar and nicotine data on pack changed to 1 mg and 0.1 mg, respectively. Lower tar achieved as result of increased filter ventilation.

12/76

Tar (1 mg) and nicotine (0.1 mg) data listed on pack changed to 2 mg and 0.2 mg, respectively. Increase in filler alkaloids noted.

11/77

Tar (2 to 0.06 mg), nicotine (0.2 to 0.06 mg) and CO (2 to <1.0 mg) lowered - increase filter ventilation (68 to 82%) and tipping paper (30 to 35 mm) - tar data on pack changed from 2 to 1 mg.

6/81

2050081354

E. REYNOLDS TOBACCO COMPANY (continued)NOW MENTHOL 85 (BOX) (continued)

Filter length increased (25 to 27 mm) - decreased tobacco weight (0.517 to 0.492 g). Ventilation system changed from mechanical perforation to laser perforation.

11/83

Tipping paper length decreased (35 to 31 mm).

1/84

NOW MENTHOL 85 (SOFT PACK)

Soft pack version marketed in Washington, D.C. Similar to hard box version of Now Menthol 85 cigarettes with the exception of a longer cigarette length. "Ultra Low Tar" specified on the package.

11/77

NOW 100

Test marketed - Tar (2 mg) and nicotine (0.2 mg) - Low delivery achieved by 75% filter ventilation.

3/80

Expanded tobacco (25 to 50%) increased - reconstituted tobacco (22 to 15%) decreased - lower tobacco weight (0.805 to 0.664 g) and rod density (0.229 to 0.185 g/cc).

2/81

Ventilation system changed from three to two rows laser perforation.

5/83

Lower puff count due to less porous paper (14 to 23 sec.) with high level of paper component (0.5 to 1.6%).

Increased filter RTD (3.7 to 4.7 in. H₂O) and filter efficiency (58 to 65%) due to change in fiber denier (3.5/Y to 2.6/Y).

11/83

Tar (2.8 to 3.6 mg), nicotine (0.28 to 0.34 mg) and CO (2.9 to 4.3 mg) increased - decrease in ventilation (74 to 66%) - filter length (27 to 31 mm), filter weight (0.18 to 0.20 g), increased - tobacco weight decreased (0.659 to 0.614 g).

5/84

NOW 100 (BOX)

Introduced - slim cigarette (22.5 mm), tar (0.00 mg), filter ventilation (95%), and filter RTD (9.5) - blend 100% expanded tobacco.

3/81

NOW MENTHOL 100

Test marketed - Tar (2 mg) and nicotine (0.2 mg) - Low delivery achieved by 75% filter ventilation.

3/80

Expanded tobacco (25 to 50%) increased - reconstituted tobacco (22 to 15%) decreased - lower tobacco weight (0.796 to 0.656 g) and rod density (0.229 to 0.185 g/cc).

2/81

55E1800500

E. REYNOLDS TOBACCO COMPANY (continued)NOW MENTHOL 100 (continued)

Tar (2.8 to 1.4 mg) and nicotine (0.25 to 0.20 mg) decreased - ventilation (76 to 82%) increased - menthol (0.34 to 0.29 mg) decreased. 5/82

Tar (1.5 to 2.3 mg), nicotine (0.21 to 0.30 mg) and CO (0.9 to 1.8 mg) increased - decreased ventilation (82 to 76%). 9/82

Ventilation system changed from three to two rows laser perforation. 5/83

CO increased (1.6 to 2.5 mg) due to a change to a less porous paper (15 to 25 sec.) with higher level of paper component (0.4 to 1.9%) - Fiber denier decreased (3.2/Y to 2.4/Y) resulting in increased filter RTD (3.8 to 4.6 in. H₂O) and filter efficiency (54 to 64%). 1/84

Tar (2.5 to 3.4 mg) and CO (2.9 to 3.6 mg) deliveries increased - decreased ventilation (77 to 71%). Filter length increased (27 to 31 mm) - decreased tobacco weight (0.662 to 0.620 g), increased total RTD (3.4 to 4.1 in. H₂O) filter RTD (4.6 to 5.4 in. H₂O) and filter weight (0.19 to 0.21 g). 5/84

PRINCE ALBERT 85

Introduced - king size with a 20 mm CA filter - "pipe tobacco" blend. 8/65

REAL 85

Introduced - low tar (10 mg) and nicotine (0.8 mg) correlating with a 25 mm high efficiency CA filter with ventilation (27%). Blend contains similar levels of reconstituted material and Freon expanded tobacco typical of other Reynolds' products. Tar (9 mg) listed on pack along with a claim "Nothing Artificial Added." 6/77

Lower tar (10 to 8 mg) and nicotine (0.9 to 0.7 mg) resulting from an increase in filter ventilation (25 to 38%). 5/80

REAL MENTHOL 85

Introduced - low tar (10 mg) and nicotine (0.8 mg) correlating with a 25 mm high efficiency CA filter with ventilation (34%). Blend contains similar levels of reconstituted material and Freon expanded tobacco typical of other Reynolds' products. Tar (9 mg) listed on pack along with a claim "Nothing Artificial Added." 6/77

Filler and smoke menthol levels increased. 2/79

REYNOLDS TOBACCO COMPANY

E. REYNOLDS TOBACCO COMPANY (continued)SALEM 80 (BOX)

Introduced in flip-top box - Similar to Salem 85. 3/74

Lower filler alkaloids (0.1%) correlating with a lower nicotine delivery. 11/75

Tipping paper length increased (23 to 24 mm). Decrease in tar delivery and puff count noted. 11/76

Decrease in tar (19 to 15 mg) and nicotine (1.2 to 1.1 mg) deliveries corresponding to the use of a more porous cigarette paper and a more efficient filter. 7/77

SALEM 85

Nicotine delivery and filler alkaloids decreased. 10/60

Nicotine delivery and filler alkaloids decreased. 7/63

Nicotine delivery and filler alkaloids increased. 7/64

Nicotine delivery and filler alkaloids increased. 2/65

TPM decreased 1.5 mg by changing paper additive. 3/65

Filter length increased, 17 to 20 mm. 10/66

Expanded tobacco (4%) noted in blend of some cigarettes. 11/69

Tar (1 mg) and tobacco weight decreased by addition of expanded tobacco. 3/70

Filter length (20 to 21 mm) and tipping paper length (24 to 25 mm) increased - No change in smoke deliveries. 2/73

Tar delivery (1 mg) decreased - Cigarette length decreased - puff count lower. 3/73

Lower filler alkaloids (0.1%) correlating with a lower nicotine delivery. 11/75

Cigarette length (84.3 to 84.0 mm) decreased. 2/76

Decrease in tar (18 to 16 mg) and nicotine (1.2 to 1.0 mg) correlating with a change to a more porous cigarette paper. 5/77

Tar (13.7 to 15.2 mg), nicotine (1.04 to 1.19 mg) and CO (13.6 to 15.4 mg) increased - change to a less porous paper (18 to 20 sec.) and a less efficient filter (45 to 40%) - higher filler menthol (1.4 to 2.1 mg) resulted in higher menthol in smoke (0.42 to 0.55 mg). Tobacco wt. (0.783 to 0.745 g) and rod density (0.252 to 0.242 g/cc) decreased - increased paper component (0.6 to 1.3 %). 8/82

2050081357

E. REYNOLDS TOBACCO COMPANY (continued)SALEM 85 (continued)

Test marketed pack containing 12 cigarettes per pack. 3/83

Ventilation decreased (18% to none) resulting in higher tar (15 to 16 mg), nicotine (1.2 to 1.3 mg), CO (16 to 18 mg), and menthol (0.57 to 0.68 mg) deliveries. 5/83

Paper component level increased (0.6 to 1.5%). 11/83

SALEM EXTRA 85

Introduced - Delivers more menthol than current Salem 85 - cork tipping. 10/74

SALEM LIGHTS 85

Menthol - Test marketed - Tar (12 mg) and nicotine (0.8 mg) deliveries - Lower in tar than Salem 85 because of more porous cigarette paper, filter ventilation and an increased filter and tipping paper length. 11/75

Tar delivery (1 mg) decreased by increase in filter ventilation. 4/76

Tar (10 to 8 mg), nicotine (0.8 to 0.6 mg), and CO (13 to 12 mg) decreased resulting from an increase in both filter ventilation (16 to 28%) and tipping paper length (30 to 32 mm). 10/80

Tar (8.6 to 8.2 mg) and CO (10.7 to 8.8 mg) decreased - increased filter ventilation (30 to 42%). Paper porosity decreased (17 to 26 sec.) - paper component increased (0.7 to 1.6%). Tobacco weight (0.714 to 0.689 g) decreased - increased amount of expanded tob. (13 to 17%). 10/82

Test marketed pack containing 12 cigarettes per pack. 3/83

Tar (8 to 9 mg), nicotine (0.7 to 0.8 mg), CO (9 to 11 mg), and menthol (0.31 to 0.50 mg) deliveries increased due to decreased ventilation. Ventilation system changed from two to one row of mechanical perforation - decreased paper component - increased cigarette paper porosity. 5/83

Filter length increased (25 to 27 mm), rod density increased (0.237 to 0.244 g/cc). 9/83

Tar (9 to 10 mg), nicotine (0.77 to 0.82 mg) and puff count (7.4 to 7.8) increased - tipping paper length decreased (32 to 31 mm) - filler menthol (2.6 to 2.9 mg) and smoke menthol (0.48 to 0.52 mg) increased. 3/84

SALEM ULTRA 85

Name changed to Salem Ultra Lights. 3/82

2050081358

E. REYNOLDS TOBACCO COMPANY (continued)SALEM ULTRA LIGHTS 85 (continued)

Tar (4.8 to 5.5 mg), nicotine (0.42 to 0.47 mg) and CO (4.7 to 6.7 mg) increased - decreased ventilation (56 to 52%) and less porous paper (18 to 26 sec.) - increased paper component (0.8 to 1.7%). Filter efficiency (58 to 63%) increased - increased filter RTD (99 to 130 mm of H₂O) - Menthol in smoke (0.50 to 0.42 mg) decreased - lower menthol in filler and filter.

12/82

Filter (25 to 27 mm) and tipping paper (30 to 31 mm) lengths increased. Ventilation system changed from mechanical to Hauni laser.

11/83

SALEM 100

Test marketed - 100 mm long - 20 mm CA filter.

6/67

Tar (4 mg) and nicotine (0.2 mg) reduced by filter length (20 to 25 mm) and tipping paper (24 to 30 mm).

12/67

Tar (2 mg) and nicotine (0.1 mg) decreased by addition of expanded tobacco (6%) - Tobacco weight lower.

10/70

Reconstituted tobacco content of blend increased (22 to 26%).

4/71

Filter length (25 to 27 mm) and tipping paper length (30 to 31 mm) increased - No change in smoke deliveries.

1/73

Lower filler alkaloids (0.1%) correlating with a lower nicotine delivery.

11/75

Name changed from Salem Premium Length 100 to Salem 100.

5/77

Cigarette length increased corresponding to 0.4 mm increase in filter length.

11/77

Tar (15.3 to 13.9 mg) and CO (16.4 to 13.8 mg) decreased - increase in filter ventilation (17 to 28%).

1/81

Tar (14.6 to 17.0 mg), nicotine (1.17 to 1.27 mg) and CO (14.3 to 16.7 mg) increased - change to less porous paper (16 to 24 sec.) and decreased ventilation (25 to 19%). Menthol in smoke (0.43 to 0.69 mg) increased - higher menthol levels in filler and filter.

10/82

Test marketed pack with 12 cigarettes per pack.

3/83

CO decreased (16 to 14 mg) - change to more porous paper (25 to 17 sec.) with lower level of paper component (1.5 to 0.7%).

5/84

E. REYNOLDS TOBACCO COMPANY (continued)SALEM LIGHTS 100

Introduced - appears to be low delivery (11 mg tar and 0.8 mg nicotine) version of Salem 100 cigarettes. Low delivery achieved by filter ventilation.

10/76

Name changed from Salem Long Lights 100 to Salem Light 100.

5/77

Cigarette length increased corresponding to 0.4 mm increase in filter length.

11/77

Tar (10.3 to 9.8 mg) reduced - lower filter ventilation (33 to 29%) - increase in tipping paper length (31 to 35 mm).

2/81

Filter length increased (27 to 31 mm) - tobacco weight decreased (0.852 to 0.811 g).

6/84

Filter length increased (27 to 31 mm), tobacco weight decreased (0.847 to 0.803 g), smoke menthol lower (0.53 to 0.45 mg) correlated with lower filler menthol content (3.6 to 2.9 mg).

7/84

SALEM SLIM LIGHTS 100 (BOX)

Introduced - nationally - delivers 7.6 mg tar and 0.61 mg nicotine. The cigarette circumference is 22.7 mm.

12/81

Tar data changed on pack (9 to 8 mg) to comply with FTC Report.

6/82

SALEM ULTRA 100

Name change to Salem Ultra Lights 100.

3/82

SALEM ULTRA LIGHTS 100

Tar (4.6 to 6.0 mg), nicotine (0.46 to 0.54 mg) and CO (6.0 to 7.9 mg) increased - change to a less porous paper (17 to 24 sec.) - increased paper component (0.8 to 1.5%). Tobacco weight (0.829 to 0.840 g) and rod density (0.236 to 0.241 g/cc) increased - decreased amount of expanded tobacco (28 to 16%) - Menthol in smoke (0.37 to 0.47 mg) increased - total and filter RTD increased.

12/82

Tar (5.3 to 6.1 mg) and CO (6.2 to 7.2 mg) increased - decreased ventilation (60 to 56%). Increased filter length (27 to 31 mm) and filter weight (0.20 to 0.22 g) - decreased tobacco weight (0.831 to 0.789 g). Ventilation system changed from mechanical to Hauni laser.

5/84

STERLING SPECIAL BLEND 94 (BOX)

National distribution - delivers 12 mg tar and 0.9 mg nicotine - packed in black pack - 94 mm cigarette length.

1/84

2050081330

E. REYNOLDS TOBACCO COMPANY (continued)STERLING SPECIAL BLEND MENTHOL 94 (BOX)

National distribution - delivers 12 mg tar and 0.9 mg nicotine - packed in black pack - 94 mm cigarette length. 1/84

TEMPO 85

Test marketed - dual carbon filter king size soft pack - fused carbon inner plug - high gas phase activity. 4/64

Polyethylene pellets added to charcoal filter - decrease in gas phase activity - blend change indicated by an increase in filler alkaloids and decrease in reducing sugars. 1/65

Nicotine delivery and filler alkaloids increased. 4/65

Gas phase activity of filter decreased. 2/66

TPM (5 mg) and nicotine (0.5 mg) decreased as result of changes in blend, cigarette paper, and filter. 12/66

Reconstituted tobacco content increased (17 to 23%). 3/67

Tar (4 mg) and nicotine (0.2 mg) reduced by change in filter length (20 to 25 mm) and in tipping paper (24 to 30 mm). 5/68

Tar (2 mg) reduced as a result of introduction of Hauni-type ventilation (27%) - A higher gas phase smoke index and lower total and filter RTD were noted. 10/68

Tar (2 mg) and nicotine (0.1 mg) increased by reduction in the amount of filter ventilation. 7/69

Tar (1 mg) and nicotine (0.1 mg) reduced by an increase in filter ventilation - Reduction in total and filter RTD was noted. 7/70

Package overwrap changed from cellophane to polypropylene. 8/70

Expanded tobacco observed in blend (3%) - Paper porosity changed (12 to 8 seconds) - Tar increased (1 mg). 10/71

Expanded tobacco increased (4 to 8%). Lower tobacco weight and rod density noted - Cigarette paper porosity changed (17 to 12 seconds). 3/72

Tar (5 mg) and nicotine (0.3 mg) reduced by increased filter efficiency and filter ventilation - Fiber denier of outer filter changed from 3.2 to 1.9 - Expanded tobacco increased from 7 to 11%. 2/76

2050081351

APPENDIXSUMMARY OF COMPETITIVE BRAND CHANGES OBSERVED SINCE APRIL, 1960A. AMERICAN BRANDSAMERICAN BRAND 80

80 mm - Test marketed in hard box (80 mm) - No unusual characteristics.

4/71

AMERICAN BRAND 85

85 mm - Test marketed in soft pack (85 mm) - No unusual characteristics.

4/71

AMERICAN LIGHTS 120

Plain - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (8 mg) lower than any 120 mm entry to date.

4/76

AMERICAN LIGHTS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a 40 mm CA filter and a tipping paper length of 45 mm - Tar (9 mg) lower than any 120 mm entry to date.

4/76

AMERICAN LONGS 120

Plain - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (19 mg) and nicotine (1.5 mg) deliveries.

9/75

AMERICAN LONGS MENTHOL 120

Menthol - Introduced 120 mm cigarette with a white cigarette paper - 30 mm CA filter - Tar (16 mg) and nicotine (1.3 mg) deliveries.

9/75

AMERICAN OVALS 100

100 mm cigarette with 25 mm CA filter made like a normal cigarette and pressed into its oval shape.

6/69

BERMUDA 85

Test marketed - king size - 20 mm CA filter, high TPM, low RTD.

5/65

BRIGHTON 85

Test marketed - king size - dual filtered mentholated - similar to Montclair.

4/65

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PLEASE NOTE

THE APPENDIX SECTION WHICH INCLUDES THE SUMMARY OF BRAND CHANGES, THE DESCRIPTION OF DATA REPORTED, AND EXPERIMENTAL PROCEDURES HAS BEEN UPDATED IN THIS REPORT.

PLEASE RETAIN THIS COPY FOR A REFERENCE AS THESE SECTIONS WILL NOT BE INCLUDED AGAIN UNTIL JULY, 1985. THIS WILL SAVE A CONSIDERABLE AMOUNT OF PAPER AND EFFORT BY NOT INCLUDING THE APPENDIX SECTION IN EACH MONTH'S REPORT.

THE SUMMARY OF COMPETITIVE BRAND CHANGES IS ARRANGED ALPHABETICALLY BY COMPANY. ALSO, THE BRANDS ARE LISTED ALPHABETICALLY FOR YOUR CONVENIENCE IN LOCATING A SPECIFIC BRAND.

2050081276

E. REYNOLDS TOBACCO COMPANY (continued)VANTAGE ULTRA LIGHTS 100

Introduced - Tar (5 mg) and nicotine (0.5 mg) - Low delivery achieved by a filter ventilation of 47% - Blend contains 19% expanded tobacco. 10/79

Paper component in the cigarette paper decreased - higher puff count (8.6 to 9.2). 4/81

Filter changed to CA - expanded tobacco (28 to 17%), tobacco weight (0.791 to 0.836 g), filter ventilation (45 to 58%) increase - tar (5.2 to 5.6 mg) and CO (7.9 to 5.8 mg). 5/81

Tobacco weight (0.847 to 0.751 g) decreased - increased amount of expanded tobacco (17 to 20%). Lower filler rod TPM (29.0 to 26.2 mg) and puff count (10.7 to 9.0 mg) observed. Cigarette length shortened (99.4 to 99.0 mm). 7/82

CO (5.6 to 6.3 mg) increased - change to a less porous paper (17 to 24 sec.) - Increased paper component (0.8 to 1.3%). 8/82

Test marketed Filtrona-type filter. 5/83

CO (6.4 to 5.6 mg) decreased - change to a more porous paper (24 to 16 sec.) with lower level of paper component (1.6 to 0.9%). 1/84

CO (5.7 to 7.2 mg) increased - change to a less porous paper (16 to 26 sec.) - Filter weight (0.20 to 0.22 g), filter length (27 to 31 mm) and tipping paper length (34 to 35 mm) increased - tobacco weight decreased (0.770 to 0.714 g). 5/84

VANTAGE ULTRA LIGHTS MENTHOL 100

National distribution - Tar (5 mg) similar to Vantage Ultra Lights 100 already on the market. 7/82

Test marketed Filtrona-type filter. 5/83

CO (6.9 to 6.0 mg) decreased due to more porous cigarette paper (24 to 16 sec.) with less paper component (1.5 to 0.8%). 11/83

Filter length increased (27 to 31 mm) - tobacco weight decreased (0.727 to 0.665 g). Tipping paper length increased (34 to 35 mm) - larger fiber denier (2.5 to 3.0) correlated with higher filter RTD (135 to 155 mm H₂O). 9/84

WINCHESTER 85

Plain - Introduced - Tar (18 mg) and nicotine (1.3 mg) No unusual characteristics. 10/74

2050081364

E. REYNOLDS TOBACCO COMPANY (continued)WINCHESTER MENTHOL 85

Menthol - Introduced - Tar (18 mg) and nicotine (1.3 mg) -
No unusual characteristics.

10/74

WINSTON 80 (BOX)

Nicotine delivery and filler alkaloids decreased. 9/60

Nicotine delivery and total alkaloids decreased.
Reducing sugars increased. 6/61

Lighter filter of same efficiency. 11/61

Alkaloids reduced by 0.2%. 12/62

Total alkaloids reduced. 5/63

Nicotine delivery and filler alkaloids increased. 2/65

Tar (2 mg) and nicotine (0.1 mg) decreased by addition of expanded tobacco (8%) - Tobacco weight lower. 3/70

The amount of expanded tobacco increased (8 to 10%).
A lower tobacco weight and rod density were observed. 2/71

Filter length (17 to 19 mm) and tipping paper length (21 to 23 mm) increased - Tar (1 mg) and nicotine (0.1 mg) decreased. 3/73

Lower filler alkaloids (0.1%). 11/75

Tipping paper length increased (23 to 24 mm). Decrease in tar delivery (19 to 18 mg). 10/76

Tar (18 to 16 mg) and nicotine (1.3 to 1.1 mg) decreased by a change to a more porous paper and a more efficient filter. 1/80

WINSTON 85

Nicotine delivery and filler alkaloids decreased. 9/60

Lighter filter of same efficiency. 11/61

TPM and nicotine reduction (1.5 mg and 0.2 mg) - Total alkaloids reduced. 4/63

Nicotine delivery and filler alkaloids increased. 2/65

Filter length increased, 17 to 20 mm - No change in smoke deliveries. 8/66

Expanded tobacco (6%) noted in blend of some cigarettes. 11/69

250081343

LOW TAR 85 MM FILTER CIGARETTES

(15 MG TAR OR LESS)

(Brands ranked according to FTC Tar, left to right)

¹SalesWL6
Winston
LightsLU6
Lucky
StrikeML6B
Marlboro
Lights
(Box)LU6B
Lucky
Strike
(Box)Smoke

FTC Tar, mg/cig.	10.2	10.4	11.0	11.0
Nicotine, mg/cig.	0.77	0.84	0.74	0.89
Puffs/cig.	8.3	7.8	8.2	8.0
Filtration Eff., %	58	50	55	52
Filler Rod TPM, mg/cig.	30.9	30.8	31.6	31.0
CO, mg/cig.	12.5	11.2	11.9	11.2
NO, mg/cig.	0.29	0.26	0.24	0.27

Cigarette

Total RTD, mm of H ₂ O	138	110	127	111
Static Burn. Time, min.	7.7	7.5	8.4	7.7
Length, mm	83.9	82.6	82.9	83.0
Circumference, mm	24.9	25.0	24.9	24.9

Paper

Components				
Type	Cit.	Cit.	Cit.	Cit.
Percent	0.4	0.7	0.5	0.6
Porosity, sec.	22	18	20	23

Filter

Type	CA	CA	CA	CA
RTD, mm of H ₂ O	112	80	100	80
Length, mm	27.0	24.6	27.0	25.1
Weight, g	0.18	0.15	0.16	0.15
Fiber denier/shape	2.8/Y	2.8/Y	3.0/Y	2.8/Y
Tipping Paper				
Length, mm	31	30	31	30
Color	Cork	Cork	White	Cork
Ventilation, %	22	24	20	23

Filler

Total alkaloids, % (DWB)	1.72	2.00	1.84	2.05
Total red. sugars, % (DWB)	8.3	10.0	7.2	9.2
Reconstituted Tob., %	24	16	21	16
Expanded Stems, %	None	4	2	4
Expanded Tob., %	15	14	12	14
Wt. of tob., g (Corrected to 12.5% O.V.)	0.686	0.676	0.674	0.688
Rod Length, mm	56.9	58.0	55.9	57.9
Rod Density, g/cc	0.243	0.236	0.245	0.242

¹Estimated domestic sales in billions of cigarettes for 3rd quarter - Maxwell Report - October, 1984.

2050081216

E. REYNOLDS TOBACCO COMPANY (continued)WINSTON 100

Test marketed - 100 mm long - 20 mm CA filter. 1/67

Tar (6 mg) and nicotine (0.3 mg) reduced by increase in filter length (20 to 25 mm) and tipping paper (24 to 30 mm). 12/67

Tar (1 mg) and nicotine (0.1 mg) increased by a blend change. 4/68

Expanded tobacco (6%) noted in blend of some cigarettes. 12/69

Tar (1 mg) and nicotine (0.1 mg) decreased by addition of expanded tobacco (7%) - Tobacco weight lower. 3/70

The amount of expanded tobacco increased (7 to 11%). A lower tobacco weight and rod density were noted. 3/71

Filter length (25 to 27 mm) and tipping paper length (30 to 31 mm) increased. Lower tar (1 mg) and nicotine (0.1 mg) observed. 9/73

Lower filler alkaloids (0.1%) correlating with a lower nicotine delivery. 11/75

Cigarette length (99.4 to 99.0 mm) decreased. 2/76

Cigarette length increased corresponding to 0.4 mm increase in filter length. 11/77

Pack color changed from gold to red. 1/82

Tar (14.1 to 16.4 mg), nicotine (1.02 to 1.25 mg) and CO (15.8 to 16.6 mg) increased - change to a less porous paper (17 to 25 sec.). Increased paper component (0.8 to 1.2%). 9/82

Test marketed pack containing 12 cigarettes per pack. 3/83

Tipping paper length increased (31 to 32 mm) - no changes in smoke deliveries. 7/84

WINSTON LIGHT 100

Introduced - 14 mg tar and 1.1 mg nicotine - High efficiency 27 mm CA filter with 15% ventilation - cork tipping paper. 3/77

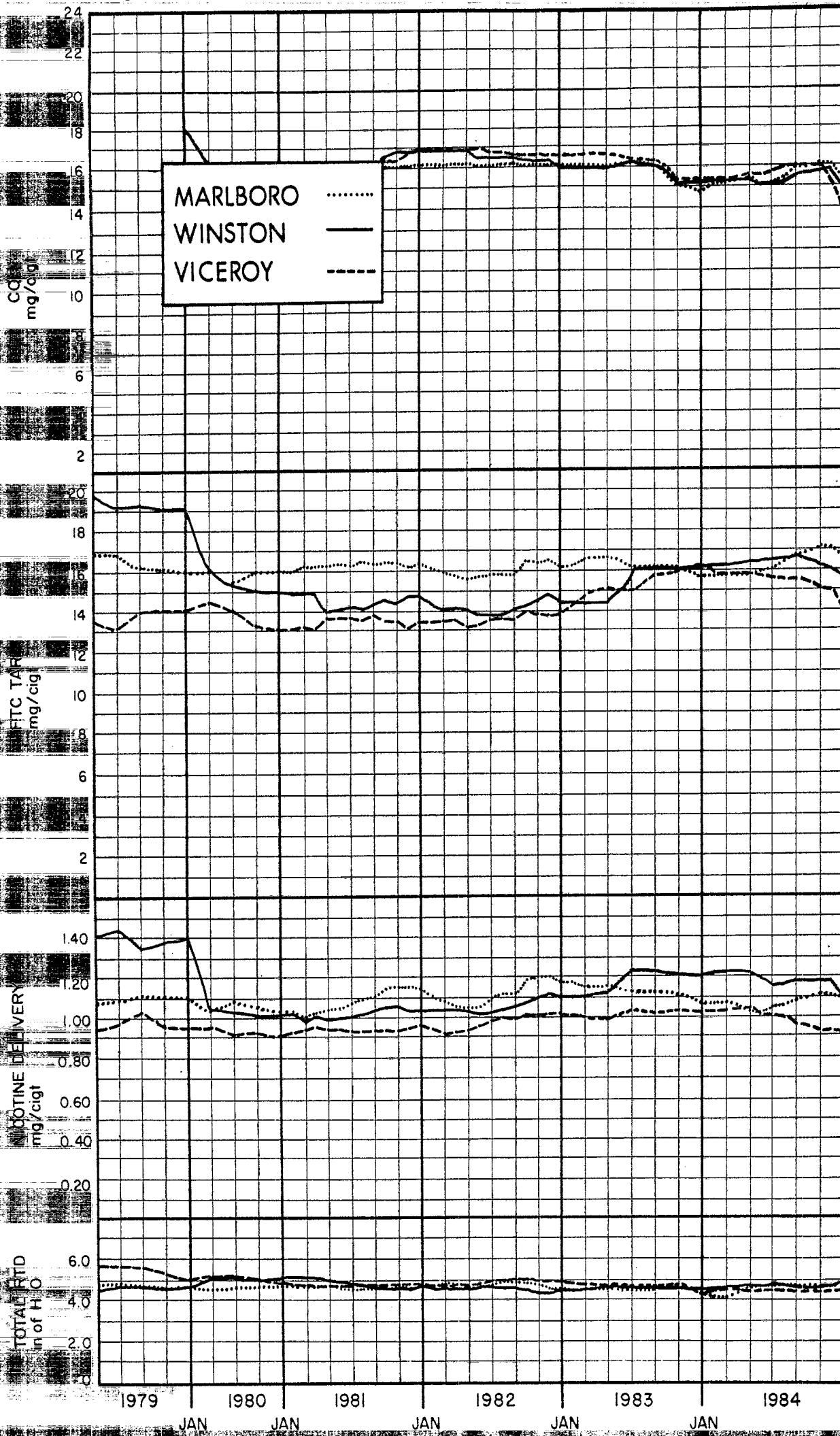
Cigarette length increased corresponding to 0.4 mm increase in filter length. 11/77

Lower tar (13 to 12 mg) correlating with a more efficient filter. 5/79

Test marketed pack containing 12 cigarettes per pack. 3/83

Tar (12.1 to 11.1 mg) and nicotine (0.94 to 0.86 mg) decreased - increase in filter length (27 to 31 mm), filter weight (0.16 to 0.19 mg), and tipping paper length (34 to 35 mm). 5/84

King Filter: Plain MARLBORO, WINSTON, VICEROY



2050081259

F. GENERIC BRANDSBASICS 85

Distributed by Grand Union Co. - manufactured by Liggett Group.

7/84

BASICS MENTHOL 85

Distributed by Grand Union Co. - manufactured by Liggett Group.

7/84

BASICS 100

Distributed by Grand Union Co. - manufactured by Liggett Group.

7/84

BRANDED ULTRA LIGHTS 85

Manufactured and sold by Brown & Williamson.

11/84

BRANDED ULTRA LIGHTS 100

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FILTER LIGHTS 85

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FILTER LIGHTS MENTHOL 85

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FILTER LIGHTS 100

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FILTER LIGHTS MENTHOL 100

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FULL FLAVOR 85

Manufactured and sold by Brown & Williamson.

11/84

BRANDED FULL FLAVOR 100

Manufactured and sold by Brown & Williamson.

11/84

2050081370

F. GENERIC BRANDS (continued)BRONSON LIGHTS 100

Distributed by National Product Group - manufactured by Liggett Group.

3/84

BRONSON ULTRA LIGHT 100

Distributed by National Product Group - manufactured by Liggett Group.

3/84

COST CUTTER LIGHTS 85

Distributed by The Kroger Company - manufactured by Liggett Group.

4/81

COST CUTTER LIGHTS 100

Distributed by The Kroger Company - manufactured by Liggett Group.

6/82

COST CUTTER LIGHTS MENTHOL 85

Distributed by The Kroger Company - manufactured by Liggett Group.

6/82

ECON MENTHOL 85

Distributed by Richfood, Inc. - manufactured by U.S. Tobacco Company.

10/81

EPIC DELUXE LIGHTS 85

Distributed by Southland Corp. - manufactured by Liggett Group.

11/83

EPIC DELUXE LIGHTS MENTHOL 85

Distributed by Southland Corp. - manufactured by Liggett Group.

11/83

FILTER ULTRA LIGHTS 85

Distributed by Gary Tobacco Co. - manufactured by Liggett Group.

3/83

FILTER ULTRA LIGHTS 100

Distributed by Gary Tobacco Co. - manufactured by Liggett Group.

3/83

2050081371

F. GENERIC BRANDS (continued)FLAVOR LIGHTS 85

Distributed by Gary Tobacco Company - manufactured by
Liggett Group.

7/81

FULL FLAVOR QUALITY 85

Distributed by Gary Tobacco Company - manufactured by
Liggett Group.

9/84

FULL FLAVOR QUALITY 100

Distributed by Gary Tobacco Company - manufactured by
Liggett Group.

9/84

GPC LIGHTS 85

Distributed by Generic Products Corporation - manufactured
by Liggett Group.

3/83

GPC LIGHTS MENTHOL 85

Distributed by Generic Products Corporation - manufactured
by Liggett Group.

3/83

GPC LIGHTS 100

Distributed by Generic Products Corporation - manufactured
by Liggett Group.

3/83

GPC FULL FLAVOR 85

Distributed by Generics Products Corporation - manufactured
by Liggett Group.

7/84

GPC FULL FLAVOR 100

Distributed by Generics Products Corporation - manufactured
by Liggett Group.

7/84

GENERIC 70 MM (NF)

Distributed by Gary Tobacco Company - manufactured
by Liggett Group.

1/84

GENERIC 85 MM (NF)

Distributed by Gary Tobacco Company - manufactured
by Liggett Group.

1/84

2050081572